List of components

- Vehicles with SRS (Airbag)/SIPS bag/IC (Inflatable Curtain)
- Table of Contents 1:2, 2:2
- Abbreviations
- How to use the wiring diagrams 1:2, 2:2
- Electrical distribution V70/XC70 1:2, 2:2
- Electrical distribution XC90 1:2, 2:2
- Fuses
  - Engine compartment 11A/1-8
  - Engine compartment 11B/1-6
  - Engine compartment 11B/8-23
  - Passenger compartment 11C/1-4
  - Passenger compartment 11C/5-8
  - Passenger compartment 11C/9-14
  - Cargo compartment 11E/1-7
  - Central Electronic Module (CEM) F1-F16
  - Central Electronic Module (CEM) F17-F34
  - Rear Electronic Module (REM) F1-F19
  - Rear Electronic Module (REM) F20-F38
- Relays
  - Ignition switch and relays
  - Engine compartment FMA2 - FST3
  - Other relays
- Ground connections
  - 31/1 - 31/46
  - 31/47 - 31/70
  - 31/72 - 31/83
  - 31/84 - 31/91
  - 31/93 - 31/95
  - 31/96 - 31/120
- Control modules
  - Overview of locations V70/XC70
  - Overview of designations V70/XC70
  - Overview of locations XC90
  - Overview of designations XC90
  - Central Electronic Module (CEM) 1:2, 2:2
  - Rear Electronic Module (REM) 1:2, 2:2
  - High speed CAN data communication
  - Low speed CAN data communication V70/XC70
  - Low speed CAN data communication XC90
  - LIN data communication 1:2, 2:2
  - Data communication MOST, XC90
  - Accessory Electronic Module (AEM)

Frame contained PDF file, click here to view

- Group 23 Fuel system
  - Engine management system, 5-cyl 1:2, 2:2
  - Engine management system, 5-cyl Turbo 1:2, 2:2
  - Engine management system, 6-cyl 1:2, 2:2
  - Engine management system, Bi-fuel 1:2, 2:2
  - Engine management system, Diesel 1:2, 2:2
  - Emission control, 5-cyl
  - Emission control, 5-cyl Turbo & 6-cyl Turbo
- Group 26 Cooling system
  - Cooling fan
- Group 27 Engine control
  - Cruise control
- Group 32 Generator and voltage regulator
  - Power supply
- Group 33 Starting system
  - Starting system
- Group 35 Lighting
  - High and low beam/Bi-Xenon & Daytime running lights V70/XC70
  - High and low beam/Bi-Xenon & Daytime running lights XC90
  - Fog lights
  - Brake lights
  - Reversing lights
  - Home safe lighting
  - Position/parking lights, tail lights & license plate lighting V70/XC70
  - Position/parking lights, tail lights & license plate lighting XC90
  - Interior lighting V70/XC70
  - Interior lighting XC90
  - Beam length adjustment V70/XC70
  - Beam length adjustment XC90
  - Auxiliary light
- Group 36 Additional electrical equipment
  - Rain sensor
  - Direction indicators and hazard warning flashers V70/XC70
  - Direction indicators and hazard warning flashers XC90
  - Wipers/washers, windshield
  - Wipers/washers, headlights V70/XC70
  - High pressure headlight washer
  - Wiper/washer, rear window
  - Horn
  - Electronic immobilizer
  - Anti-theft alarm V70/XC70
  - Anti-theft alarm XC90
  - Accessory Electronic Module (AEM)

    - Parking assistance
- Group 37 Wiring and fuses
    - Diagnostics system
    - 12V outlet
    - Towbar cable harness, 7-pin
    - Towbar cable harness, 13-pin
- Group 38 Instruments
    - Seat belt reminder
    - Driver information module
    - Driver information module Bi-fuel
- Group 39 Other
    - Audio V70/XC70
    - Audio XC90
    - Audio with auxiliary amplifier V70/XC70 1:2, 2:2
    - Cellular telephone V70/XC70
    - Road Traffic Information (RTI) V70/XC70
    - Road Traffic Information (RTI) XC90
    - Handsfree V70/XC70
    - Handsfree XC90
    - CD changer V70/XC70
    - CD/MD player XC90
    - Subwoofer XC90
    - Infotainment XC90
    - Rear seat entertainment, XC90
- Group 43 Transmission
    - Automatic transmission AW55-50SN/AW50AWD
    - Automatic transmission, 4T65AWD
    - Geartronic
    - Shift lock
    - Differential Electronic Module (DEM)
- Group 59 Brake system
    - Brake control system
- Group 64 Steering
    - Electronic power steering
- Group 76 Shock absorbers
    - Four-C V70R
- Group 83 Doors and openings
    - Central locking system V70/XC70
    - Central locking system XC90
    - Power windows
    - Power sunroof
- Group 84 Exterior decorative elements etc.
    - Power door mirrors
    - Heated door mirrors
    - Heated rear window
    - Power door mirrors with camera function
- Group 85 Interior equipment
    - Power driver's seat, LHD
    - Power driver's seat, RHD
    - Power passenger seat, LHD

    - Power passenger seat, RHD
    - Heated seats
- Group 87 Climate controls
    - Parking heater, auxiliary heater
    - Climate control system 1:2, 2:2
    - Relay, electric engine heater
    - Parking heater, remote start
    - Parking heater, Call start
    - Short stop heater
    - Climate control system, rear XC90
- Group 88 Internal equipment
    - Supplemental Restraint System (SRS) V70/ XC70
    - Supplemental Restraint System (SRS) XC90
    - Remote garage door opener
- Index 1:2, 2:2
- List of components
    - List of components 1:4
    - List of components 2:4
    - List of components 3:4
    - List of components 4:4

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WIRING DIAGRAM V70/V70R/XC70/XC90

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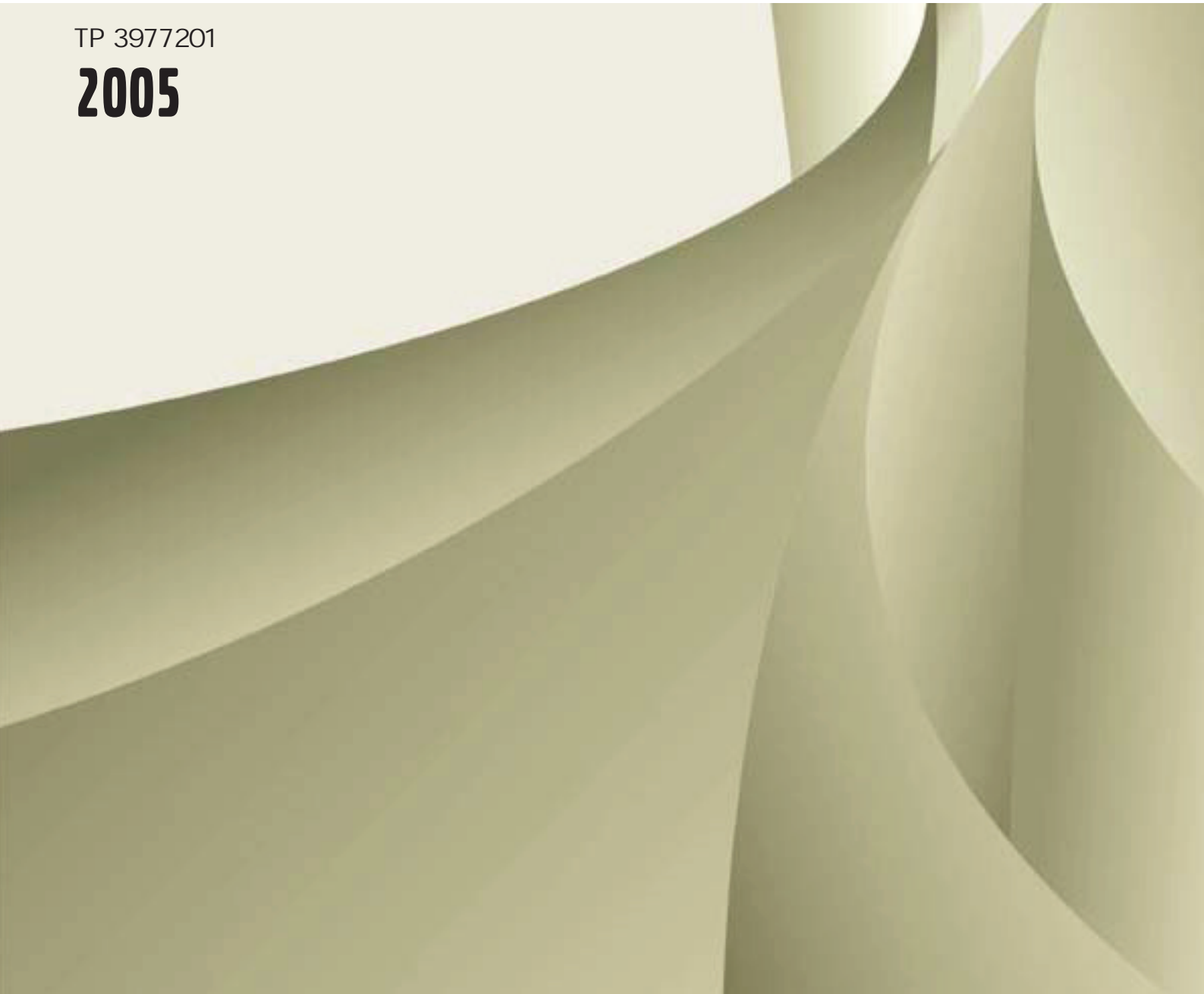

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List of components 1:4

1/1	Battery
2/14	Relay, glow plug unit
2/22	Relay, climate control system
2/32	Engine management system main relay
2/33	Relay, fuel system
2/35	Starter motor relay
2/64	Auxiliary light (accessory) relay
2/90	Relay, windshield wiper, low/high speed
2/91	Relay, intermittent windshield wiper
2/138	Deadlock relay, left-hand rear door
2/139	Deadlock relay, right-hand rear door
2/182	Relay, headlight washer motor
2/191	Relay, remote parking heater start, radio signal
2/192	Relay (230V), engine heater
3/1	Ignition switch
3/4	Cruise control switch (SWS)
3/6	Hazard warning flasher switch
3/8	Heated rear window/door mirror switch
3/9	Brake light contact
3/10	Reversing light contact
3/25	Power sunroof switch
3/26	Power driver's seat module
3/27	Power passenger seat module
3/37	Horn contact
3/47	Parking brake contact
3/59	Control, beam adjustment
3/60	Auxiliary light switch
3/62	Hood alarm contact
3/71	Gear position contacts
3/73	Power Child Lock (PCL) switch
3/74	Left-hand front door lock unit
3/75	Right-hand front door lock unit
3/76	Left-hand rear door lock unit
3/77	Right-hand rear door lock unit
3/78	Trunk lid lock unit
3/80	Switch, left-hand central lock
3/82	Switch, right-hand central lock
3/85	Rear left door power window switch
3/86	Rear right door power window switch
3/91	Switch, left-hand heated seat
3/92	Switch, right-hand heated seat
3/93	Left seatbelt latch switch
3/94	Right seatbelt latch switch
3/95	Spin control switch
3/111	Light Switch Module (LSM)
3/112	Climate Control Module (CCM)
3/117	Dome light control module
3/126	Driver/Passenger Door Module (DDM)/(PDM)
3/127	Passenger/Driver Door Module (PDM)/(DDM)
3/131	Switch, audio/cellular phone
3/135	RTI switch
3/155	Automatic transmission program selector
3/156	Gear Selector Module (GSM)
3/157	Passenger Airbag Cut Off Switch (PACOS)
3/171	Switch, retractable door mirrors
3/173	Switch, trunk lid private lock
3/174	Switch, reduced alarm
3/225	Control unit, continuous damping control (CDC)
3/254	Steering Wheel Module (SWM)
4/7	Combustion Preheater Module (CPM)
4/9	Control module, Supplemental Restraint System (SRS)
4/16	Brake Control Module (BCM)
4/28	Transmission Control Module (TCM)
4/31	Fan control module
4/33	Sunroof Control Module (SRM)
4/46	Engine Control Module (ECM)
4/50	Electronic Throttle Module (ETM)
4/52	Power driver seat module (PSM)
4/56	Central Electronic Module (CEM)
4/58	Rear Electronic Module (REM)
4/68	Steering Angle Sensor module (SAS)
4/70	Upper Electronic Module (UEM)
4/71	Cooling fan control module
4/76	Remote control unit for garage door opener
4/78	Accessory Electronic Module (AEM)
4X/78	Connector, original car interface
4/82	Differential Electronic Module (DEM)
4/83	Fuel pump control module
4/84	Suspension Module (SUM)
4/86	Parking Assistance Module (PAM)
4/99	Electronic power steering control module
4/106	Control module, remote parking heater start
4/107	Control module, parking heater, Call start
4/110	Trailer Module
5/1	Driver Information Module (DIM)
6/1	Windshield wiper motor
6/3	Right-hand headlight wiper motor
6/4	Left-hand headlight wiper motor
6/15	Sunroof motor
6/16	Driver seat motor, backrest angle
6/17	Driver seat motor, up/down front edge
6/18	Driver seat motor, up/down rear edge
6/19	Driver seat motor, forward/backward
6/20	Passenger seat motor, forward/backward
6/25	Starter motor
6/26	Alternator Control Module (ACM)
6/28	Motor, passenger compartment fan
6/29	Motor, cooling fan
6/31	Feed pump, ejectors
6/32	Rear window wiper motor
6/33	Fuel pump
6/35	Fuel pump, auxiliary heater
6/37	Lock motor, fuel filler flap
6/38	Left-hand headlight level adjustment motor
6/39	Right-hand headlight adjustment motor
6/44	Cooling fan, electrics box, engine compartment
6/48	Damper Motor Module (DMM), recirculation
6/58	Motor, front left power window
6/60	Motor, front right power window
6/62	Left-hand power door mirror
6/63	Right-hand power door mirror
6/64	Passenger seat motor, backrest angle
6/65	Passenger seat motor, up/down front edge
6/66	Passenger seat motor, up/down rear edge
6/67	Pump, fuel leakage control
6/69	Damper Motor Module (DMM), ventilation/floor/defroster
6/71	Valve, speed-dependent power steering
6/73	Coolant pump, auxiliary heater
6/76	Climate control system, rear
6/92	Motor, rear left power window
6/93	Motor, rear right power window
6/95	Damper Motor Module (DMM), temperature, left-hand side
6/96	Damper Motor Module (DMM), temperature, right-hand side
6/102	Damper Motor Module (DMM), defroster
6/103	Damper Motor Module (DMM), floor/ventilation
6/104	Headlight washer motor
6/105	Fuel distributor, gas
6/114	Vacuum pump

List of components 2:4

6/120 Engine throttle body
6/127 Washer motor

7/4 Brake fluid level sensor
7/5 Washer fluid level sensor
7/6 Oil pressure sensor
7/8 Pressure sensor, climate control system
7/10 Interior temperature sensor
7/11 Outside temperature sensor
7/12 Solar sensor, twilight sensor and indicator alarm
7/15 Heated oxygen sensor
7/16 Coolant temperature sensor
7/17 Mass airflow sensor MAF
7/23 Rear knock sensor
7/24 Front knock sensor
7/25 Impulse sensor
7/31 Left-hand front ABS sensor
7/32 Right-hand front ABS sensor
7/35 Oil level sensor
7/41 Temperature sensor, evaporator
7/51 Accelerator pedal sensor
7/56 Left-hand rear ABS sensor
7/57 Right-hand rear ABS sensor
7/61 Input speed sensor
7/62 Output speed sensor
7/73 Coolant level sensor
7/74 Oil temperature sensor, automatic transmission
7/81 Pressure sensor, intake manifold
7/82 Heated oxygen sensor, diagnosis 1
7/87 Acceleration sensor, Four-C, front left
7/88 Acceleration sensor, Four-C, front right
7/89 Acceleration sensor, Four-C, rear left
7/91 Steering angle sensor
7/93 Occupant Weight Sensor (OWS)
7/100 Inclination Sensor Module (ISM)
7/103 Heated oxygen sensor 3
7/105 Outside temperature sensor, engine control module
7/108 Left-hand rear side impact sensor
7/109 Right-hand rear side impact sensor
7/110 Left-hand seat temperature sensor
7/111 Right-hand seat temperature sensor
7/115 Left-hand front side impact sensor
7/116 Right-hand front side impact sensor
7/118 Acceleration sensor, shock absorber, Four-C, front left
7/119 Acceleration sensor, shock absorber, Four-C, front right
7/120 Rear left angle sensor
7/121 Shock absorber, Four-C, rear left
7/122 Mass Movement Sensor (MMS), front
7/123 Clutch pedal sensor
7/124 Brake pedal sensor
7/129 Brake pressure sensor 2
7/130 Fuel level sensor, injector side
7/131 Parking assistance sensor 1
7/132 Parking assistance sensor 2
7/133 Parking assistance sensor 3
7/134 Parking assistance sensor 4
7/135 Glass breakage sensor, left-hand
7/136 Glass breakage sensor, right-hand
7/137 Glass breakage sensor, tailgate
7/139 Brake pressure sensor 1
7/143 Fuel level sensor, pump side
7/149 Rain Sensor Module (RSM)
7/153 Sensor, fuel level LPG
7/156 Pressure and temperature sensor CNG
7/156 Fuel pressure and temperature sensor, gasoline
7/158 Mass Movement Sensor (MMS), rear
7/159 Air Quality Sensor (AQS)
7/162 Pressure sensor, fuel line
7/164 Sensor module DSTC
7/165 Pressure and temperature sensor, intake manifold
7/172 Position sensor, camshaft, intake side
7/173 Position sensor, camshaft, exhaust side
7/175 Passenger seat weight sensor
7/178 RH front impact sensor
7/179 LH front impact sensor
7/192 Temperature sensor, evaporator
7/201 Pressure and temperature sensor, gas
7/204 Parking assistance sensor 5
7/205 Parking assistance sensor 6
7/206 Parking assistance sensor 7
7/207 Parking assistance sensor 8

8/3 Electromagnetic clutch, climate control system
8/6-11 Injectors
8/17 EGR valve
8/18 EVAP valve
8/19 Solenoid, variable valve time, inlet
8/20 Shock absorber, Four-C, front left
8/21 Shock absorber, Four-C, front right
8/22 Shock absorber, Four-C, rear left
8/23 Shock absorber, Four-C, rear right
8/28 Turbocharger control valve
8/30 Driver side airbag igniter
8/31 Passenger side airbag igniter
8/32 Igniter, passenger side airbag stage 2
8/33 Front left belt tensioner igniter
8/34 Front right seat belt tensioner igniter
8/36 Shift lock solenoid
8/37 Automatic transmission
8/38 Shift solenoid 1
8/39 Shift solenoid 2
8/40 Lock-up solenoid
8/41 Pressure solenoid
8/46 DSTC activation module
8/51 Front left side airbag igniter
8/52 Front right side airbag igniter
8/55 Rear left belt tensioner igniter
8/56 Rear right belt tensioner igniter
8/61 Driver side airbag igniter step 2
8/62 Belt tensioner igniter, center rear seat
8/64 Solenoid valve, engine mounting
8/66 Igniter, left-hand inflatable curtain
8/67 Right-hand inflatable curtain igniter
8/71 Throttle solenoid
8/72 Shift solenoid 3
8/73 Shift solenoid 4
8/74 Shift solenoid 5
8/75 Valve, fuel cut-off DFCO
8/76 Gas tank valve
8/78 Oil pressure sensor
8/79 Valve LPG
8/81 Solenoid, variable valve timing outlet
8/82 Solenoid, variable turbo geometry
8/84 Switch, vacuum pump
8/85 Thermostatic switch and fuel filter heating
8/88 Solenoid, gas tank CNG rear
8/89 Solenoid, fuel tank CNG front left
8/90 Solenoid, fuel tank CNG front right
8/94 Left-hand belt tensioner igniter, third row of seats
8/95 Right-hand belt tensioner igniter, third row of seats
8/96 Left-hand inflatable curtain igniter, third row of seats
8/97 Right-hand inflatable curtain igniter, third row of seats

List of components 3:4

8/99 Igniter, steering column
8/111 Solenoid valve, high-pressure diesel
8/123 Igniter, airbag, ventilation, driver's side
8/124 Igniter, airbag, ventilation, passenger side
8/134 Solenoid, reverse interlock, manual

9/1 Front 12V outlet
9/2 Heated rear window
9/12 Seat Heater Module (SHM) left-hand
9/13 Seat Heater Module (SHM) right-hand
9/16 Left-hand backrest heating element
9/17 Right-hand backrest heating element
9/18 Left-hand seat heating element
9/19 Right-hand seat heating element
9/25 Rear 12V outlet
9/30 Auxiliary heater
9/32 PTC resistor - air preheating
9/33 Left-hand heated door mirror
9/34 Right-hand heated door mirror

10/1 Left-hand front lamp housing
10/2 Right-hand front lamp housing
10/3 License plate lighting
10/5 Front left fog light
10/6 Front right fog light
10/11 Front left parking light
10/12 Front right parking light
10/13 Front left direction indicator
10/14 Front right direction indicator
10/15 Front left fender direction indicator, V70/XC70
10/15 Direction indicator, left front door, XC90
10/16 Front right fender direction indicator, V70/XC70
10/16 Direction indicator, right front door, XC90
10/17 Lamp housing, right-hand tail light
10/18 Lamp housing, left-hand tail light
10/19 Auxiliary brake light
10/25 Ceiling light, cargo compartment
10/29 Glove compartment lighting
10/43 Right-hand brake light
10/44 Right-hand tail light lamp
10/45 Right-hand tail light lamp 2
10/46 Fog light, right rear
10/47 Rear right direction indicator
10/48 Right-hand reversing light
10/50 Left-hand brake light
10/51 Left-hand tail light lamp
10/52 Left-hand tail light lamp 2
10/53 Fog light, left rear
10/54 Rear left direction indicator
10/55 Left-hand reversing light
10/64 Right-hand high beam
10/65 Front right auxiliary light
10/66 Right-hand low beam
10/68 Left-hand high beam
10/69 Front left auxiliary light
10/70 Left-hand low beam
10/71 Front left side marker light
10/72 Front ashtray lighting
10/73 Front right side marker light
10/114 Left-hand vanity mirror lighting
10/115 Right-hand vanity mirror lighting
10/125 Left-hand front courtesy lighting
10/126 Right-hand front courtesy lighting
10/148 Left-hand rearview mirror lighting
10/149 Right-hand rearview mirror lighting
10/150 Rear reading light
10/151 Left-hand rear door switch lighting
10/152 Right-hand rear door switch lighting
10/172 Reading light, third row of seats
10/173 Cargo compartment lighting, tailgate
10/218 Remote start indicator light

11A/no. Main fuses in engine compartment fuse box
11B/no. Fuses in engine compartment fuse box
11C/no. Fuses in passenger compartment fuse box
11E/no. Main fuses at battery

15/30 Connecting rail to 15/31
15/31 Engine compartment distribution box

16/1 Audio Module (AUM)
16X/1 Connector, original car interface
16/2 Amplifier
16/3 Right-hand front door speaker
16/4 Left-hand front door speaker
16/5 Right-hand rear door speaker
16/6 Left-hand rear door speaker
16/10 Horn 1
16/11 Horn 2
16/15 CD changer
16/16 LH window antenna amplifier 1
16/26 Central dashboard speaker
16/35 Alarm siren (SCM)
16/36 TV receiver
16/45 Road Traffic Information (RTI)
16X/45 Connector, original car interface
16/46 RTI display, V70/XC70
16/46 Multimedia display, XC90
16/47 GPS antenna RTI
16/50 Left-hand rear window antenna
16/54 Right-hand rear window antenna
16/55 Left-hand front tweeter
16/56 Right-hand front tweeter
16/57 Speaker, left-hand D-pillar
16/58 Speaker, right-hand D-pillar
16/59 Antenna, remote control
16/60 Phone Module (PHM)
16/62 Hand unit, cellular phone
16/63 GPS antenna, Telephone
16/64 Antenna, cellular telephone
16/65 Antenna ring/ignition switch lighting
16/67 Amplifier antenna, bumper
16/68 Antenna, bumper
16/71 Window antenna amplifier 1 right
16/73 Window antenna amplifier 2 left
16/74 Window antenna amplifier 2 right
16/77 Microphone, cellular telephone
16/78 Speaker, cellular telephone
16/79 Subwoofer, V70/XC70
16/79 Bass speaker system SUB, XC90
16/81 LCD screen
16/82 DVD player, rear
16/93 Control module, cellular telephone handsfree
16/94 Infotainment Control Module (ICM)
16/105 Audio module (AUD)
16X/105 Connector, original car interface
16/106 Control module, CD player (MP2)
16/107 Control module, MD player (MP1)
16/108 Multimedia module (MMM)
16/110 Antenna control module (ATM)
16/111 Socket, rear left headphones
16/112 Socket, rear right headphones
16/126 Holder, cellular telephone handsfree
16/127 Microphone, cellular telephone handsfree

17/13 Data link connector
17/17 Jump start connection
17/19 12V outlet, cargo compartment

List of components 4:4

17/38 7-pin outlet, towbar cable harness
17/39 13-pin outlet, towbar cable harness

18/4 Contact reel

20/3-8 Spark plug and ignition coil
20/16 Capacitor
20/22-26 Glow plug

27/3 Left-hand Camera Module (LCM)
27/4 Right-hand Camera Module (RCM)

31/no. Ground connection

53/no. Junction point

54/no. Connector
54X/no. Connector, original car interface

A1 Connecting rail to 15/31
C1-6 Connecting rails to 15/31

Vehicles with SRS (Airbag)/SIPS bag/ IC (Inflatable Curtain)

Warning!

Vehicles equipped with SRS/SIPS bag/IC must be handled with extra care when making repairs. This avoids:
1. Personal injuries when performing repair work.
2. Damage or malfunction of the SRS/SIPS bag/IC system.

Work involving the SRS/SIPS bag/IC systems or other components in the vehicle that may affect the SRS/SIPS bag/IC systems must always be performed by an authorized Volvo workshop.
In case of doubt, consult the SRS and SIPS bag/IC service manual.

Is the vehicle equipped with SRS/SIPS bag/IC ?

Vehicles with SRS are most easily recognized by the letters SRS in the center of the steering wheel. If the vehicle also has a passenger side airbag, the letters SRS are stamped on the dashboard above the glove compartment. SRS vehicles from 1993 and onward also have explosive seatbelt tensioners. SIPS bags are only installed on SRS vehicles from 1995 and onward. SIPS bag decals are located on the windshield and seat compartment. Vehicles with IC can be recognized by the letters IC on the C/D panel (4 door) or the B panel (5 door).

General recommendations

- Be especially careful when working on or around SRS, SIPS, and IC components.
- Make sure that no wires are pinched, frayed, or pierced.
- Never install accessories by the sensors.
- Where applicable, work on the steering wheel, steering shaft, or steering gear must be done in accordance with the methods in the SRS section of VADIS.
- Certain components of the aforementioned systems must be grounded while working. Read the appropriate sections in VADIS.
- Install no accessories in the areas between the A and B posts, the B and C posts, and the C and D posts.

Test terminal

Data link connector in the passenger compartment.

Modifications introduced up to February 2004
Any changes made to the vehicles after this date are not included in the manual. If necessary refer to service bulletins.

Volvo models are sold in versions adapted for different markets. These adaptations depend on factors such as legal requirements, taxation, and market demands.
This manual may therefore include illustrations and text that do not apply to the vehicles in your country.

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Table of Contents 1:2

Vehicles with SRS (Airbag)/SIPS bag/ IC (Inflatable Curtain) ... 2
Abbreviations ... 5
How to use the wiring diagrams 1:2 ... 6
Electrical distribution 1:2 ... 8

Fuses

Engine compartment 11A/1-8 ... 12
Engine compartment 11B/1-6 ... 13
Engine compartment 11B/8-23 ... 14
Passenger compartment 11C/1-4 ... 15
Passenger compartment 11C/5-8 ... 16
Passenger compartment 11C/9-14 ... 17
Cargo compartment 11E/1-7 ... 18
Central Electronic Module (CEM) F1-F16 ... 19
Central Electronic Module (CEM) F17-F34 ... 20
Rear Electronic Module (REM) F1-F19 ... 21
Rear Electronic Module (REM) F20-F38 ... 22

Relays

Ignition switch and relays ... 23
Engine compartment FMA2 - FST3 ... 24
Other relays ... 25

Ground connections

31/1 - 31/46 ... 26
31/47 - 31/70 ... 27
31/72 - 31/83 ... 28
31/84 - 31/91 ... 29
31/93 - 31/95 ... 30
31/96 - 31/120 ... 31

Control modules

Overview of locations V70/XC70 ... 32
Overview of designations V70/XC70 ... 33
Overview of locations XC90 ... 34
Overview of designations XC90 ... 35
Central Electronic Module (CEM) 1:2 ... 36
Rear Electronic Module (REM) 1:2 ... 38
High speed CAN data communication ... 40
Low speed CAN data communication V70/XC70 ... 41
Low speed CAN data communication XC90 ... 42
LIN data communication 1:2 ... 43
Data communication MOST, XC90 ... 45
Accessory Electronic Module (AEM) ... 46

Group 23 Fuel system

Engine management system, 5-cyl 1:2 ... 47
Engine management system, 5-cyl Turbo 1:2 ... 49
Engine management system, 6-cyl 1:2 ... 51
Engine management system, Bi-fuel 1:2 ... 53
Engine management system, Diesel 1:2 ... 55
Emission control, 5-cyl ... 57
Emission control, 5-cyl Turbo & 6-cyl Turbo ... 58

Group 26 Cooling system

Cooling fan ... 59

Group 27 Engine control

Cruise control ... 60

Group 32 Generator and voltage regulator

Power supply ... 61

Group 33 Starting system

Starting system ... 62

Group 35 Lighting

High and low beam/Bi-Xenon & Daytime running lights V70/XC70 ... 63
High and low beam/Bi-Xenon & Daytime running lights XC90 ... 64
Fog lights ... 65
Brake lights ... 66
Reversing lights ... 67
Home safe lighting ... 68
Position/parking lights, tail lights & license plate lighting V70/XC70 ... 69
Position/parking lights, tail lights & license plate lighting XC90 ... 70
Interior lighting V70/XC70 ... 71
Interior lighting XC90 ... 72
Beam length adjustment V70/XC70 ... 73
Beam length adjustment XC90 ... 74
Auxiliary light ... 75

Group 36 Additional electrical equipment

Rain sensor ... 76
Direction indicators and hazard warning flashers V70/XC70 ... 77
Direction indicators and hazard warning flashers XC90 ... 78
Wipers/washers, windshield ... 79
Wipers/washers, headlights V70/XC70 ... 80
High pressure headlight washer ... 81
Wiper/washer, rear window ... 82
Horn ... 83
Electronic immobilizer ... 84
Anti-theft alarm V70/XC70 ... 85
Anti-theft alarm XC90 ... 86
Accessory Electronic Module (AEM) ... 87
Parking assistance ... 88

Group 37 Wiring and fuses

Diagnostics system ... 89
12V outlet ... 90
Towbar cable harness, 7-pin ... 91
Towbar cable harness, 13-pin ... 92

Group 38 Instruments

Seat belt reminder ... 93
Driver information module ... 94
Driver information module Bi-fuel ... 95

Group 39 Other

Audio V70/XC70 ... 96
Audio XC90 ... 97
Audio with auxiliary amplifier V70/XC70 1:2 ... 98
Cellular telephone V70/XC70 ... 100
Road Traffic Information (RTI) V70/XC70 ... 101
Road Traffic Information (RTI) XC90 ... 102
Handsfree V70/XC70 ... 103
Handsfree XC90 ... 104
CD changer V70/XC70 ... 105
CD/MD player XC90 ... 106
Subwoofer XC90 ... 107
Infotainment XC90 ... 108
Rear seat entertainment, XC90 ... 109

Table of Contents 2:2

Group 43 Transmission

Automatic transmission AW55-50SN/AW50AWD 110
Automatic transmission, 4T65AWD 111
Geartronic 112
Shift lock 113
Differential Electronic Module (DEM) 114

Group 59 Brake system

Brake control system 115

Group 64 Steering

Electronic power steering 116

Group 76 Shock absorbers

Four-C V70R 117

Group 83 Doors and openings

Central locking system V70/XC70 118
Central locking system XC90 119
Power windows 120
Power sunroof 121

Group 84 Exterior decorative elements etc.

Power door mirrors 122
Heated door mirrors 123
Heated rear window 124
Power door mirrors with camera function 125

Group 85 Interior equipment

Power driver's seat, LHD 126
Power driver's seat, RHD 127
Power passenger seat, LHD 128
Power passenger seat, RHD 129
Heated seats 130

Group 87 Climate controls

Parking heater, auxiliary heater 131
Climate control system 1:2 132
Relay, electric engine heater 134
Parking heater, remote start 135
Parking heater, Call start 136
Short stop heater 137
Climate control system, rear XC90 138

Group 88 Internal equipment

Supplemental Restraint System (SRS) V70/XC70 ... 139
Supplemental Restraint System (SRS) XC90 140
Remote garage door opener 141

Index 142

List of components 1:4

Explanations
Abbreviations

Groups

Group 23 = Fuel system
Group 26 = Cooling system
Group 27 = Engine controls
Group 32 = Generator and voltage regulator
Group 33 = Starting system
Group 35 = Lighting
Group 36 = Additional electrical equipment
Group 37 = Wiring and fuses
Group 38 = Instruments
Group 39 = Other
Group 43 = Transmission
Group 59 = Brake system
Group 64 = Steering
Group 76 = Shock absorbers
Group 83 = Doors and openings
Group 84 = Exterior decorative elements etc.
Group 85 = Interior equipment
Group 87 = Climate controls
Group 88 = Internal equipment

Ignition switch symbols

X = Accessories (audio position)
S = Powered upon insertion of key
15 = The switch remains connected during start
15I = Contact is broken while starting
30 = Constant power from the battery
50 = Start

Countries/Markets

A = Austria
AUS = Australia
B = Belgium
CDN = Canada
CH = Switzerland
D = Germany
DK = Denmark
E = Spain
EU/OS = Markets outside USA and Canada
FIN = Finland
GB = Great Britain
ISR = Israel
J = Japan
KOR = Korea
N = Norway
NL = Netherlands
S = Sweden
USA = United States of America
WEU = Western Europe

Other

ACC = Accessory
AMP = Amplifier
AUDIO = Audio system
AUTO = Automatic transmission
Bi-X = Bi-Xenon
BLIS = Blindspot Indication System
CDCH = CD Changer Under Shelf
CEM = Central Electronic Module
DRL = Daytime Running Lights
DSTC = Dynamic Stability Traction Control
ECC = Electronic climate control system
ECPS = Electronic power steering
EXC = Exclusive
EXT. D = Extended electrical distribution
HISPEED = High speed data bus
LH = Left-hand side
LHD = Left-hand drive
LOSPEED = Low speed data bus
MAN = Manual transmission
OPN = Option (factory-installed)
PCL = Power Child Lock
PETROL = Gasoline
REM = Rear Electronic Module
RH = Right-hand side
RHD = Right-hand drive
RTI = Road Traffic Information
SRS = Airbag
SUBWOOF = Bass speaker
SULEV = Super Ultra Low Emission Vehicle
T = Turbo engine
ULEV = Ultra Low Emission Vehicle
W/O = Without
5CYL = 5-cylinder engine
6CYL = 6-cylinder engine

Colors

BL = Blue
BN = Brown
GN = Green
GR = Gray
LBL = Light Blue
LGN = Light Green
OR = Orange
P = Pink
R = Red
SB = Black
VO = Violet
W = White
Y = Yellow

How to use the wiring diagrams 1:2

The descriptions below apply in general to all wiring diagram manuals, although not all sections are necessarily contained in this manual.

A. Component designation

Every component has a component designation that consists of two parts.

The first part is a type number that describes the type of component in question, for example 3/xx.

The second part of the designation is a serial number, e.g. x/2.

Together, this constitutes a component designation, e.g. 3/2.

At the end of the manual is a list of components, where, with the help of the component designation, you can read off the name of the component, for example, 3/2 = light switch.

List of type numbers

The list shows which type of component that respective type numbers refer to, for example, 3/x = switch, 6/x = electric motor, etc.

1	Battery
2	Relay
3	Switch
4	Control module
5	Combined instrument panel
6	Electric motor
7	Sensor
8	Actuator
9	Heating element
10	Light
11	Fuse
15	Electrical distribution rail/box
16	Audio
17	Service/diagnostics
18	Contact reel
19	Meter
20	Ignition component/shunt
26	Converter
27	Optics
31	Ground connection
53	Junction point
54	Connector

B. Junction points

The wiring diagrams contain numbered junction points, e.g. 53/352.

This manual contains a section with a list of junction points. This list shows all the components which are connected to each junction point.

The location of the junction points is shown in the "Cable harness routing in vehicle" section.

C. Connectors

Connectors provide a bridge between two cables harnesses and are described in the "Connectors" section.

D: Electrical distribution

Operation of the fuses and relays is shown in the "Electrical distribution" section.

E. Data communication

Today's cars contain CAN and MOST networks that transfer information. Connections to these networks are not shown in their entirety in the respective wiring diagram. Complete information on CAN and MOST communication is found in the section "Control modules".

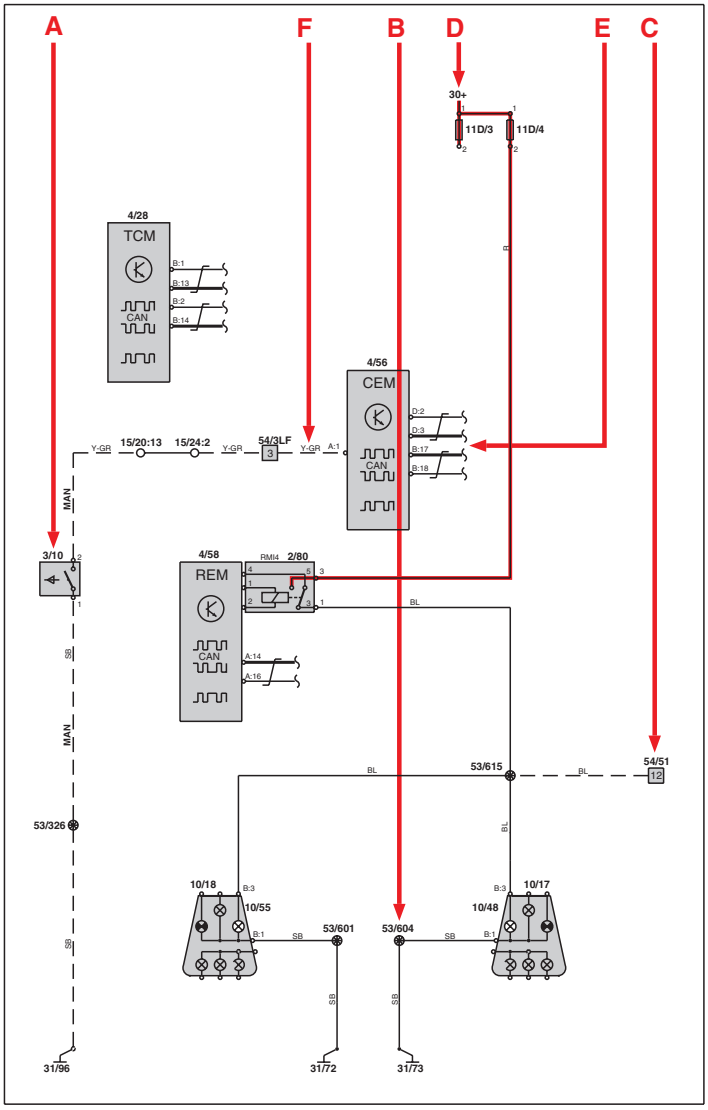
F. Abbreviations

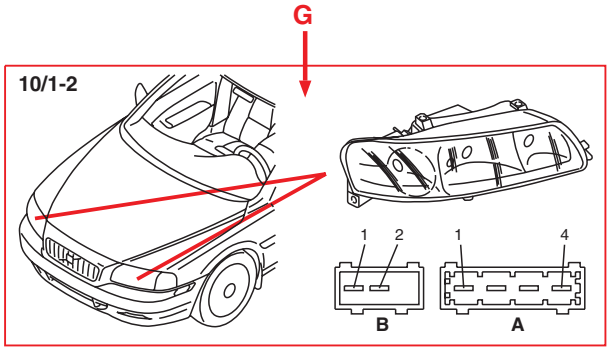
A number of different abbreviations are used in the manual. These are explained in the section "Abbreviations".

G. Component location

There is a section at the end of the manual in which the appearance and location of components is described in numerical order.

How to use the wiring diagrams 2:2





List of symbols

= System voltage

= Ground connection via wiring

= Ground connection on component/chassis

= Screened wire

= Junction point

= Twisted cable

= Electrical connection

= Variant

= CAN communication

= CAN high data signal (CAN H)

= CAN low data signal (CAN L)

= MOST communication

= LIN communication

= DIN cable, coaxial cable, etc.

= Data communication

= CAN communication

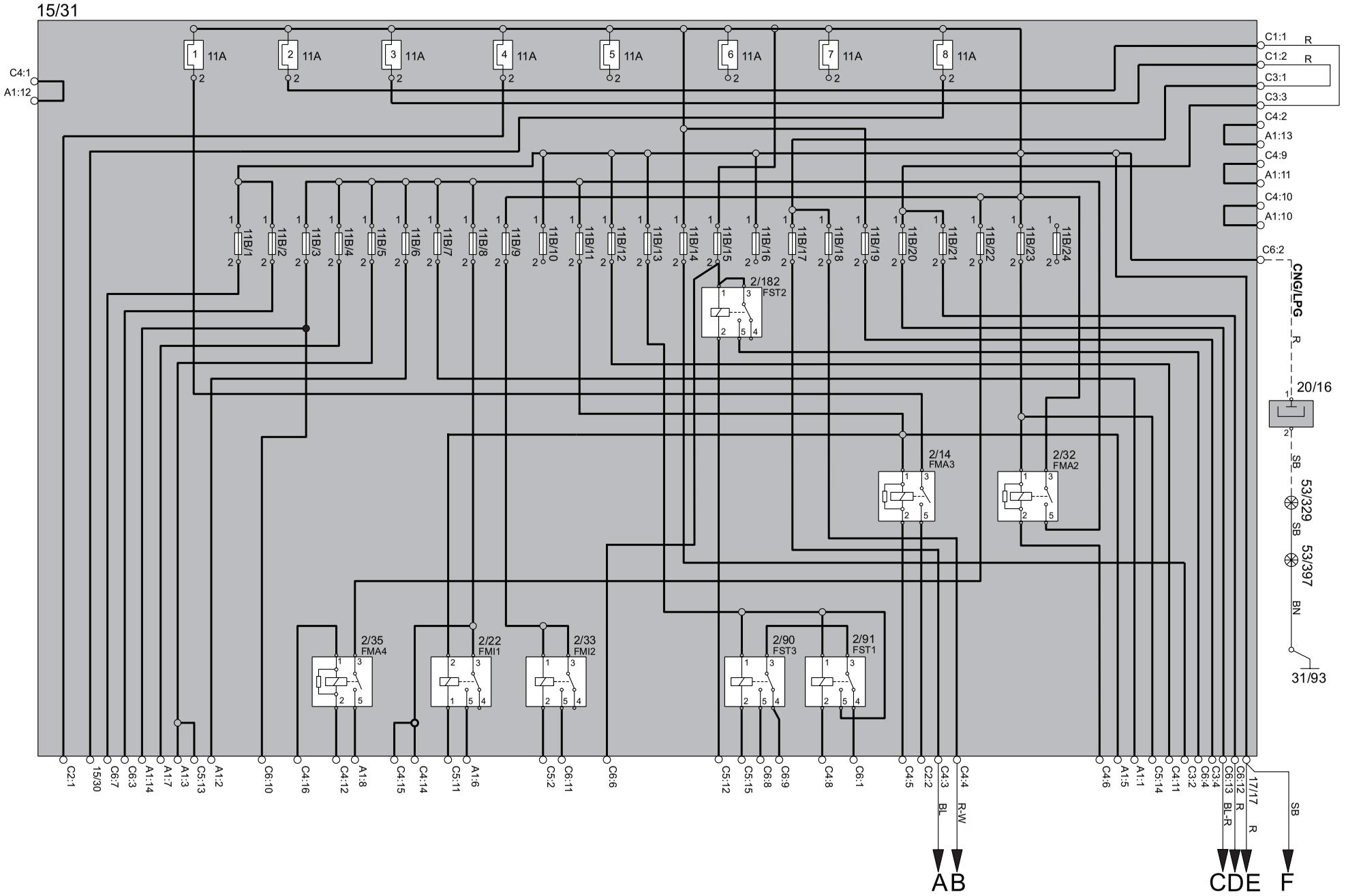
= Connection with distribution box

= Further connection to...

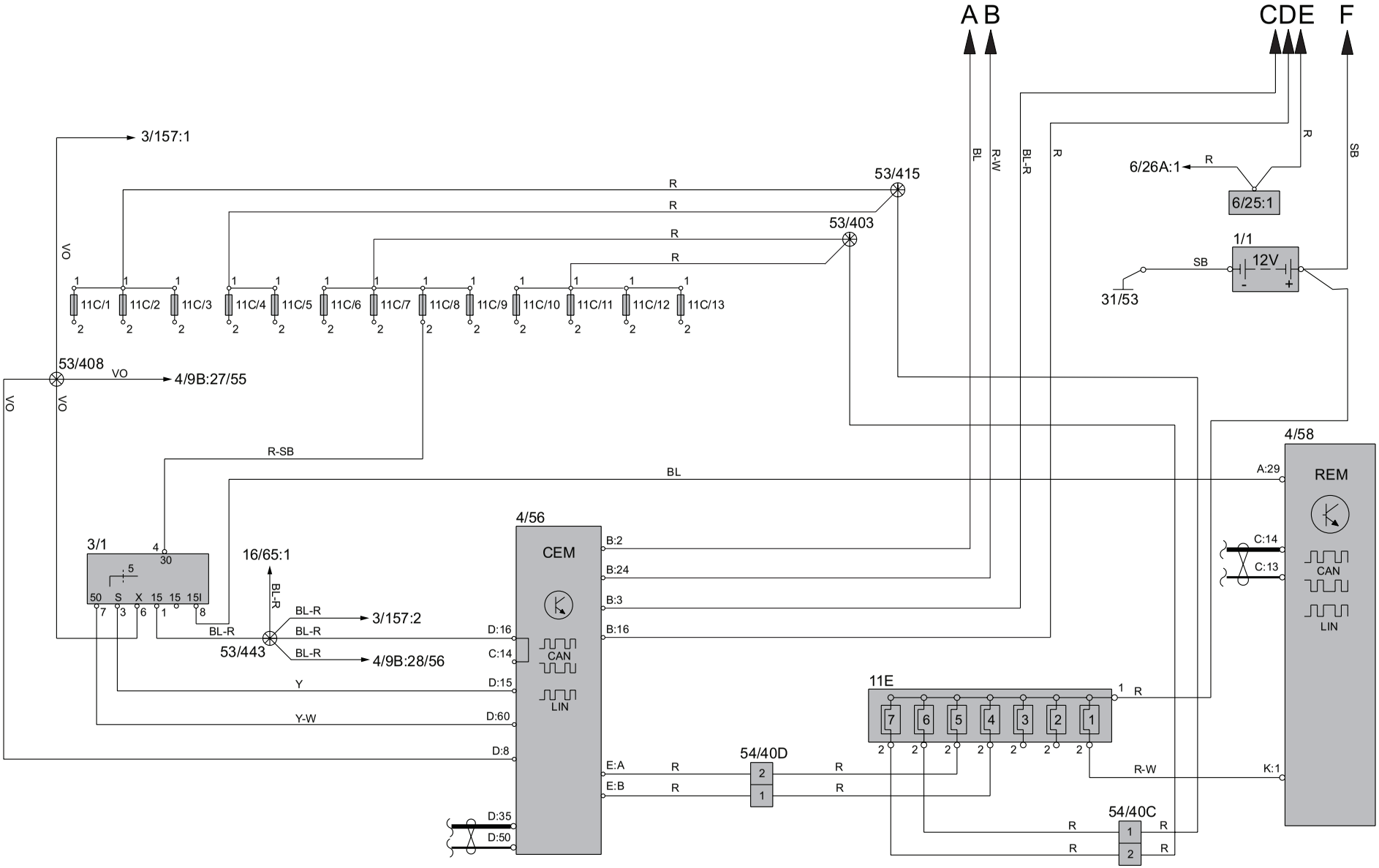
= Connector between wiring harnesses

= Connector connected to component

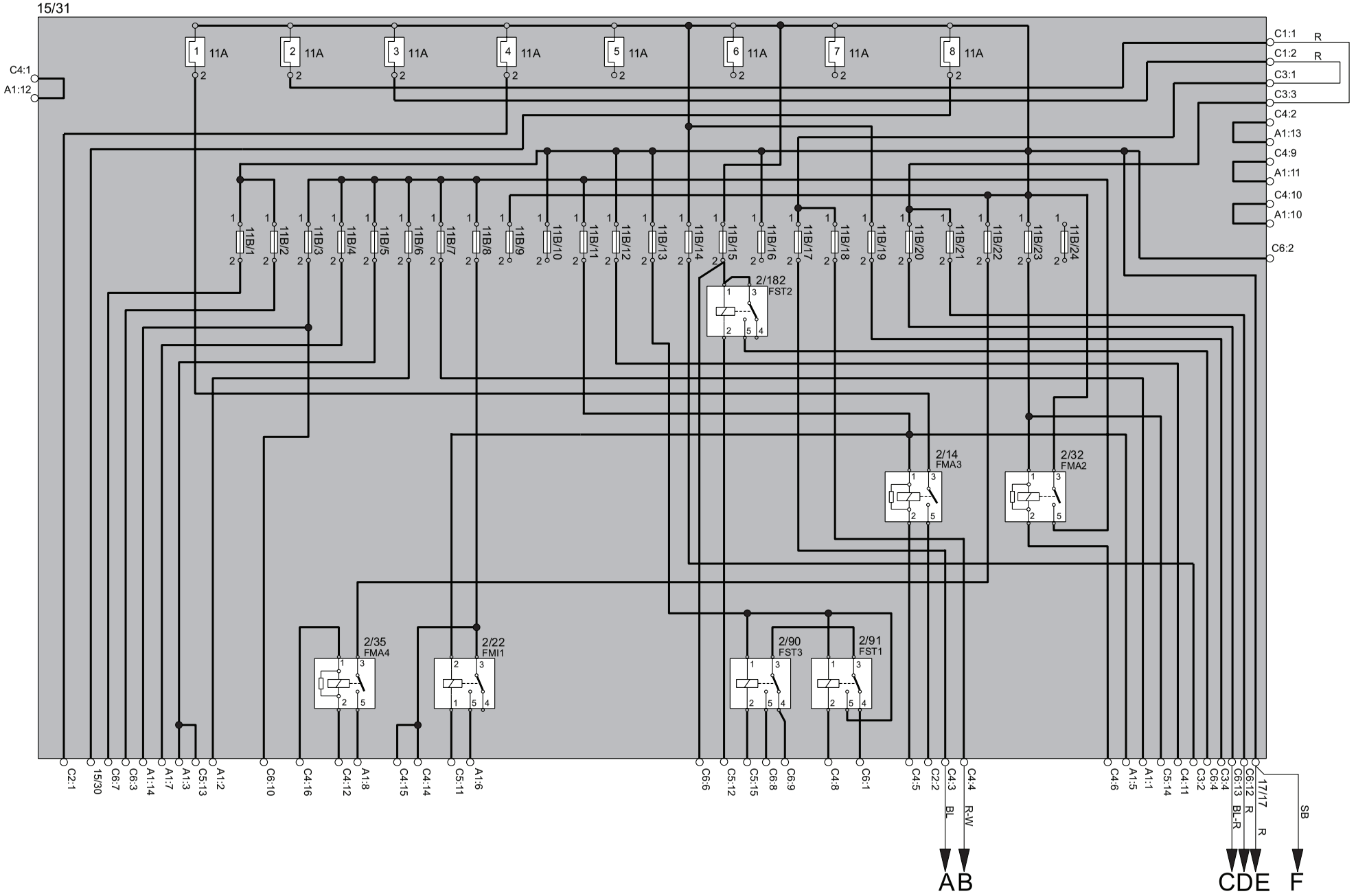
Electrical distribution 1:2
Overview V70/XC70



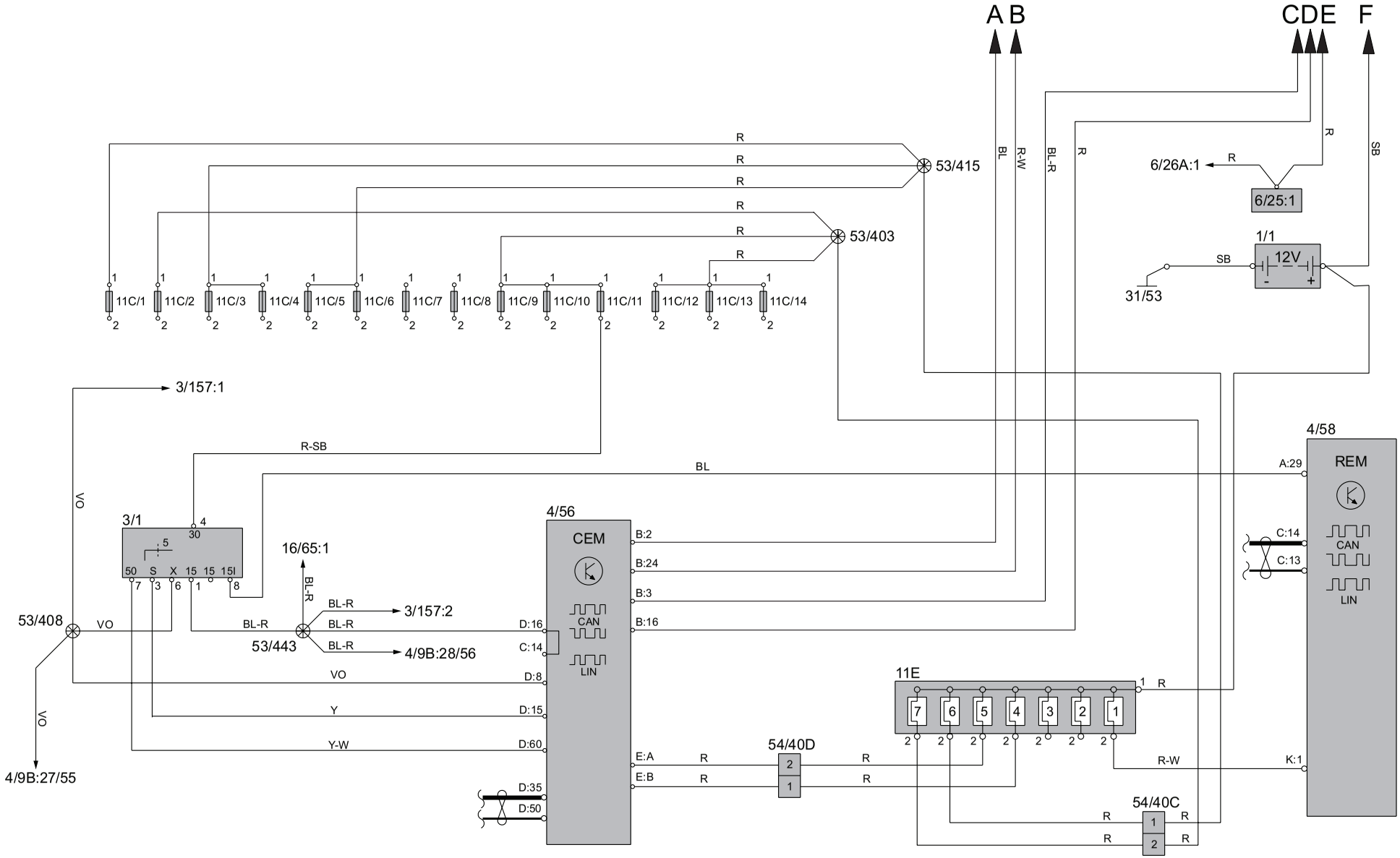
Electrical distribution 2:2
Overview V70/XC70



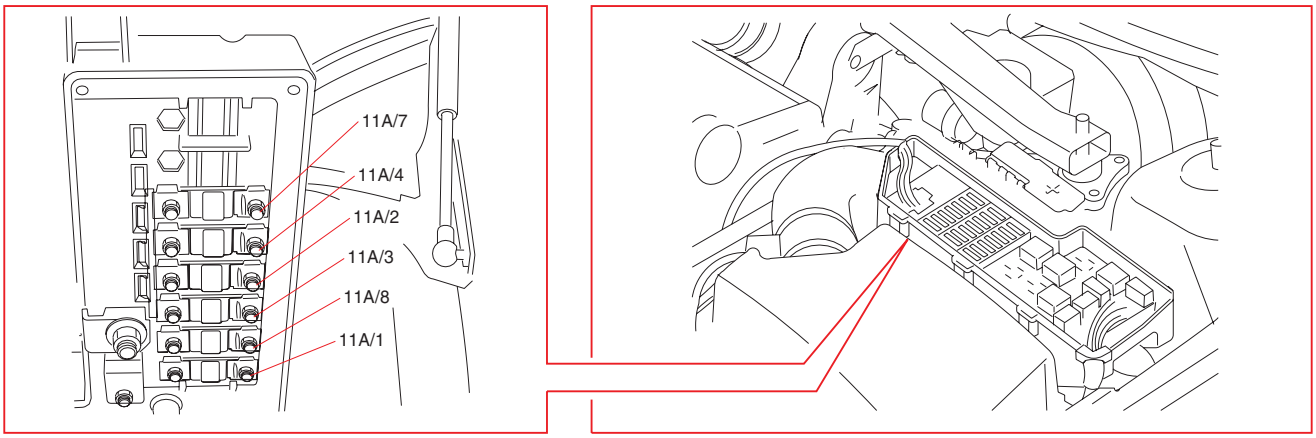
Electrical distribution 1:2
Overview XC90



Electrical distribution 2:2
Overview XC90



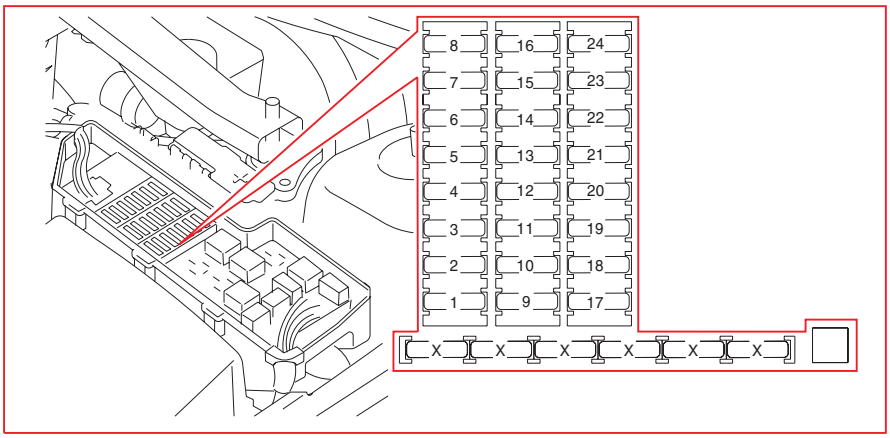
Fuses
Engine compartment 11A/1-8



11A Fuses in the engine compartment

No.	Fuse function		via	A
1	20/22-26	Glow plug	2/14	60
2	11B/20 11B/21	Fuses in engine compartment fuse box Fuses in engine compartment fuse box	- -	40
3	11B/17 11B/18	Fuses in engine compartment fuse box Fuses in engine compartment fuse box	- -	40
8	6/29	Motor, cooling fan	4/71	60

Fuses
Engine compartment 11B/1-6

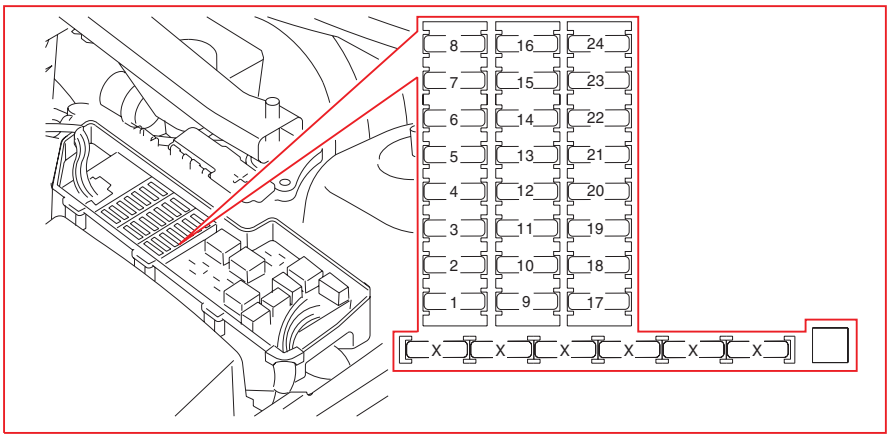


11B Fuses in the engine compartment

No.	Fuse function		via	A
1	6/35	Fuel pump, auxiliary heater	4/7	25
	6/73	Coolant pump, auxiliary heater	4/7	
	9/30	Auxiliary heater	4/7	
2	54/8:1	Accessory wiring connector, 30-feed	-	20
3	4/46	Engine Control Module (ECM), 5-cyl normally aspirated	-	10
	4/50	Electronic Throttle Module (ETM), CNG/LPG	-	
	6/120	Engine throttle body, 5-cyl normally aspirated	4/46	
4	4/46	Engine Control Module (ECM), Diesel, CNG/LPG	-	20
	7/15	Heated oxygen sensor	-	
	7/82	Heated oxygen sensor, diagnosis 1	-	
	7/103	Heated oxygen sensor 3	-	
	8/111	Solenoid valve, high-pressure, Diesel	-	
5	6/67	Pump, fuel leakage control	-	10
	6/105	Fuel distributor, gas	-	
	8/17	EGR valve, Diesel	-	
	8/18	EVAP valve	-	
	8/19	Solenoid, variable valve time, inlet	-	
	8/28	Turbocharger control valve	-	
	8/64	Solenoid valve, engine mounting, Diesel	-	
	8/75	Valve, fuel cut-off DFCO	-	
	8/81	Solenoid, variable valve timing outlet	-	
	8/82	Solenoid, variable turbo geometry, Diesel	-	
	9/32	PTC resistor - air preheating	-	
6	7/17	Mass airflow sensor (MAF), Diesel	-	10
	4/46	Engine Control Module (ECM), Gasoline	-	15
	7/17	Mass airflow sensor (MAF), Gasoline	-	
	8/6-11	Injectors	-	

continues

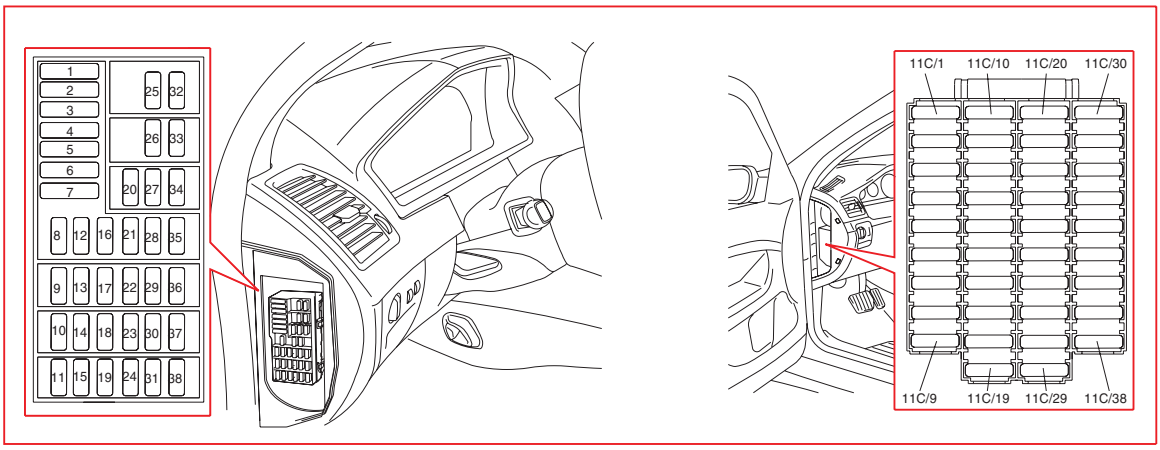
Fuses
Engine compartment 11B/8-23



11B Fuses in the engine compartment

No.	Fuse function		via	A
8	6/44 7/51 8/3	Cooling fan, electrics box, engine compartment Accelerator pedal sensor Electromagnetic clutch, climate control system	- - 2/22	10
9	2/33 8/79	Fuel system relay, V70 LPG valve, V70	- 2/33	10
11	2/14 2/22 20/3-8	Relay, glow plug unit Relay, climate control system Spark plug and ignition coil	- - -	20
13	2/90 2/91 6/1	Relay, windshield wiper, low/high speed Relay, intermittent wiping Windshield wiper motor	- - 2/90, 2/91	25
14	4/16	Brake Control Module (BCM)	-	30
15	2/182 6/104	Relay, headlight washer motor High pressure headlight washer	- 2/182	35
17	10/1 10/70	Left front lamp housing, daytime running lights Left-hand low beam	4/56 4/56	20
18	10/11 10/12	Front left parking light Front right parking light	4/56 4/56	15
19	4/16	Brake Control Module (BCM)	-	30
20	10/2 10/66	Right front lamp housing, daytime running lights Right-hand low beam	4/56 4/56	20
21	4/83 6/31 6/33	Fuel pump control module Feed pump, ejectors Fuel pump	4/56 4/56 4/56	15
22	6/25	Starter motor	2/35	35
23	2/32 4/46	Engine management system main relay Engine Control Module (ECM), Gasoline	- -	10

Fuses
Passenger compartment 11C/1-4



11C Fuses in the passenger compartment

No.	Fuse function		via	A
1	6/16	Driver seat motor, backrest angle, V70	4/52	25
	6/17	Driver seat motor, up/down front edge, V70	4/52	
	6/18	Driver seat motor, up/down rear edge, V70	4/52	
	6/19	Driver seat motor, forward/backward, V70	4/52	
	4/52	Power Seat Module (PSM), V70	-	
	6/28	Motor, passenger compartment fan, XC90	4/31	30
2	6/20	Passenger seat motor, forward/backward, V70	3/27	25
	6/64	Passenger seat motor, backrest angle, V70	3/27	
	6/65	Passenger seat motor, up/down front edge, V70	3/27	
	6/66	Passenger seat motor, up/down rear edge, V70	3/27	
	16/105	Audio control module (AUD), XC90	-	30
3	6/28	Motor, passenger compartment fan, V70	4/31	30
	6/16	Driver seat motor, backrest angle, XC90	4/52	25
	6/17	Driver seat motor, up/down front edge, XC90	4/52	
	6/18	Driver seat motor, up/down rear edge, XC90	4/52	
	6/19	Driver seat motor, forward/backward, XC90	4/52	
4	3/74	Lock unit, left front door, V70	3/126	25
	3/126	Driver/Passenger Door Module (DDM)/(PDM), V70	-	
	6/58	Front left power window motor, V70	3/126	
	6/62	Left-hand power door mirror, V70	3/126	
	9/33	Left-hand heated door mirror, V70	3/126	
	10/148	Left-hand door mirror lighting, V70	3/126	
	6/20	Passenger seat motor, forward/backward, XC90	3/27	30
	6/64	Passenger seat motor, backrest angle, XC90	3/27	
	6/65	Passenger seat motor, up/down front edge, XC90	3/27	
	6/66	Passenger seat motor, up/down rear edge, XC90	3/27	

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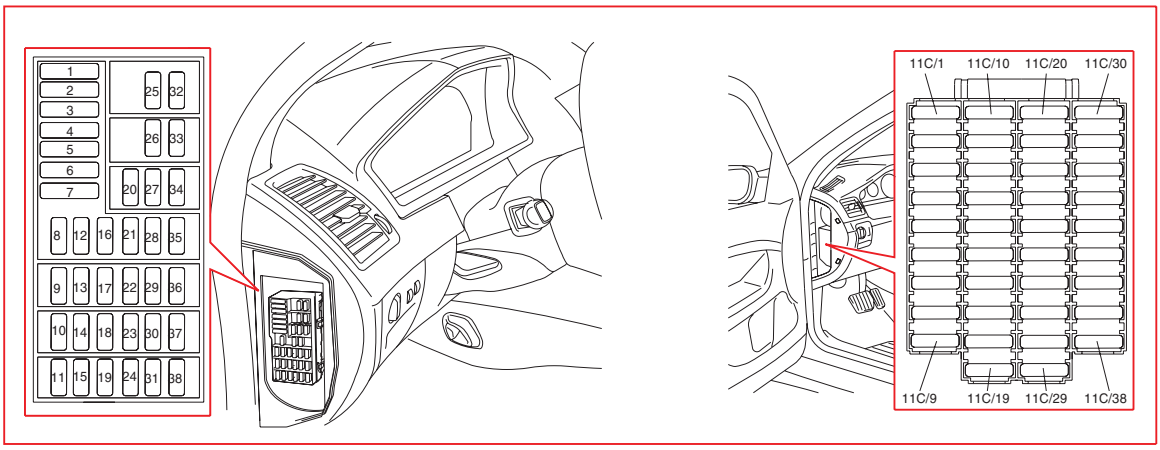
Fuses
Passenger compartment 11C/5-8



11C Fuses in the passenger compartment

No.	Fuse function		via	A
5	3/75	Lock unit, right front door, V70	3/127	25
	3/127	Passenger/Driver Door Module (PDM)/(DDM), V70	-	
	6/60	Front right power window motor, V70	3/127	
	6/63	Right-hand power door mirror, V70	3/127	
	9/34	Right-hand heated door mirror, V70	3/127	
	10/149	Right-hand door mirror lighting, V70	3/127	
	3/74	Front left door lock unit, XC90	3/126	
	3/126	Driver/Passenger Door Module (DDM)/(PDM), XC90	-	
	6/62	Left-hand power door mirror, XC90	3/126	
	9/33	Left-hand heated door mirror, XC90	3/126	
	6/58	Front left power window motor, XC90	3/126	
	10/148	Left-hand door mirror lighting, XC90	3/126	
6	3/117	Ceiling light switch unit, V70	4/70	10
	4/70	Upper Electronic Module (UEM), V70	-	
	4/76	Remote controlled garage door opener, V70	4/70	
	7/149	Rain Sensor Module (RSM), V70	4/70	
	10/25	Ceiling light, cargo compartment, V70	4/70	
	10/114	Left-hand vanity mirror lighting, V70	4/70	
	10/115	Right-hand vanity mirror lighting, V70	4/70	
	10/150	Rear reading light, V70	4/70	
	3/75	Lock unit, front right door, XC90	3/127	25
	3/127	Passenger/Driver Door Module (PDM)/(DDM), XC90	-	
	6/63	Right-hand power door mirror, XC90	3/127	
	9/34	Right-hand heated door mirror, XC90	3/127	
	6/60	Front right power window motor, XC90	3/127	
	10/149	Right-hand door mirror lighting, XC90	3/127	
7	6/15	Sunroof motor, V70	4/33	15
8	3/157	Passenger Airbag Cut Off Switch (PACOS), V70	3/1	7.5
	4/9	Control module, Supplemental Restraint System (SRS), V70	3/1	
	4/46	Engine Control Module (ECM), V70	3/1, 4/56	
	4/56	Central Electronic Module (CEM), V70	3/1	
	4/58	Rear Electronic Module (REM), V70	3/1	
	16/65	Antenna ring/ignition switch lighting, V70	3/1	

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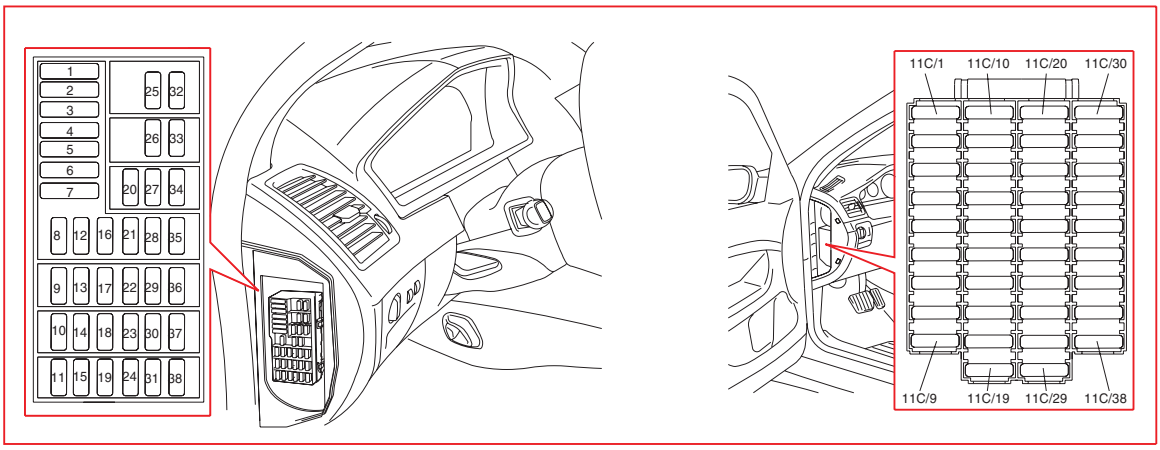
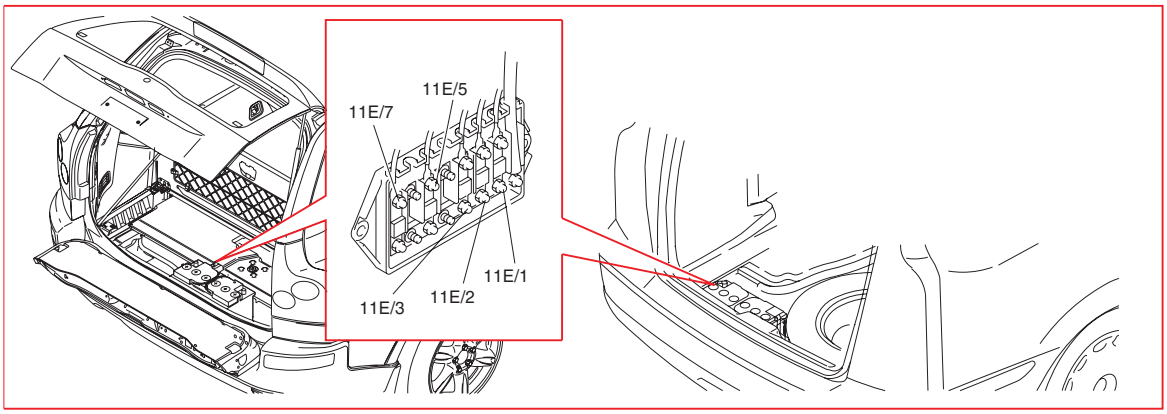
Fuses
Passenger compartment 11C/9-14



11C Fuses in the passenger compartment

No.	Fuse function		via	A
9	3/111	Light Switch Module (LSM), V70	-	5
	3/254	Steering Wheel Module (SWM), V70	-	
	4/68	Steering Angle Sensor module (SAS), V70	3/254	
	17/13	Data link connector, V70	-	
	16/46	Multimedia display, XC90	-	10
	16/106	Control module, CD player (MP2)	-	
	16/107	Control module, MD player (MP1)	-	
	54/112	Accessory wiring, infotainment EXT.D, XC90	-	
10	16/1	Audio Module (AUM), V70	-	20
	3/111	Light Switch Module (LSM), XC90	-	5
	3/254	Steering Wheel Module (SWM), XC90	-	
	4/68	Steering Angle Sensor module (SAS), XC90	3/254	
	17/13	Data link connector, XC90	-	
11	16/2	Amplifier, V70	-	30
	3/157	Passenger Airbag Cut Off Switch (PACOS), XC90	3/1	7.5
	4/9	Control module, Supplemental Restraint System (SRS), XC90	3/1	
	4/46	Engine Control Module (ECM), XC90	3/1, 4/56	
	4/56	Central Electronic Module (CEM), XC90	3/1	
	4/58	Rear Electronic Module (REM), XC90	3/1	
	16/65	Antenna ring/ignition switch lighting, XC90	3/1	
12	16/46	RTI display, V70	-	10
	3/117	Ceiling light switch unit, XC90	4/70	
	4/70	Upper Electronic Module (UEM), XC90	-	
	4/76	Remote controlled garage door opener, XC90	4/70	
	7/149	Rain Sensor Module (RSM), XC90	4/70	
	10/114	Left-hand vanity mirror lighting, XC90	4/70	
	10/115	Right-hand vanity mirror lighting, XC90	4/70	
	10/150	Rear reading light, XC90	4/70	
	10/172	Reading light, third row of seats, XC90	4/70	
13	16/60	Phone Module (PHM), V70	-	5
	6/15	Sunroof motor	4/33	15
14	16/60	Phone Module (PHM), XC90	-	5

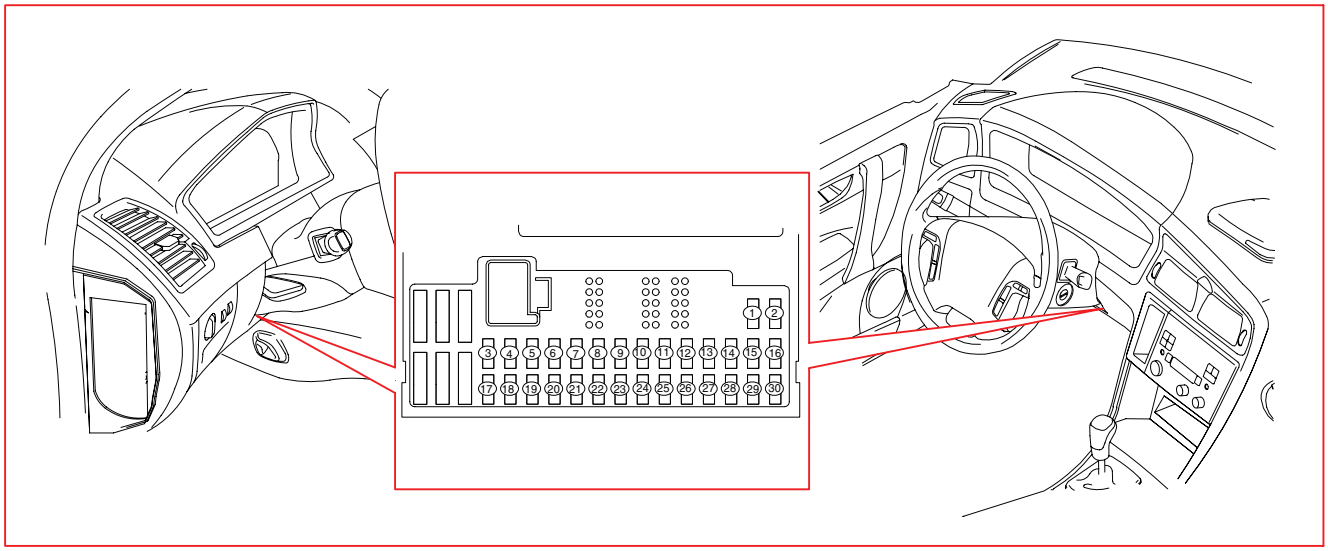
Fuses
Cargo compartment 11E/1-7



11E Fuses by the battery

No.	Fuse function	via	A
1	4/58 Rear Electronic Module (REM) Main fuse for: F1-F38	-	60
4	4/56 Central Electronic Module (CEM) Main fuse for: F1-F2, F11, F13-F16, F26-F30, F33	- -	50
5	4/56 Central Electronic Module (CEM) Main fuse for: F3, F5-F10, F17-F23, F31-F32, F34	- -	50
6	11C/1-5 Fuses in the passenger compartment fuse box, V70	-	50
	11C/1, 3-6 Fuses in the passenger compartment fuse box, XC90	-	
7	11C/6-13 Fuses in the passenger compartment fuse box, V70	-	50
	11C/2, 9-14 Fuses in the passenger compartment fuse box, XC90	-	

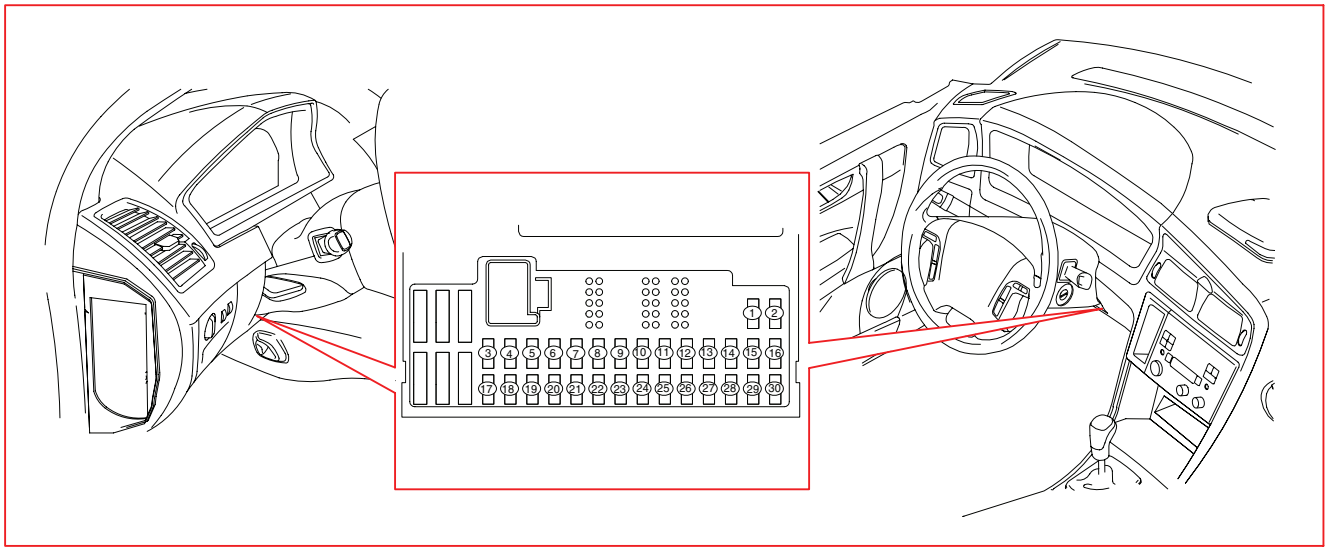
Fuses
Central Electronic Module (CEM) F1-F16



4/56 Central Electronic Module (CEM)

No.	Fuse function		via	A
F1	9/13	Right seat warmer	-	15
F2	9/12	Left seat heater	-	15
F3	16/10	Horn 1	-	15
	16/11	Horn 2	-	
F5	16/46	Multimedia display, XC90	-	10
	16/106	Control module, CD player (MP2), XC90	-	
	16/107	Control module, MD player (MP1), XC90	-	
	54/112	Accessory wiring, infotainment EXT.D, XC90	-	
F8	16/35	Siren Control Module (SCM)	-	5
F9	3/9	Brake light contact	-	5
F10	3/112	Climate Control Module (CCM)	-	10
	4/7	Combustion Preheater Module (CPM)	-	
	4/52	Power Seat Module (PSM)	-	
	5/1	Driver Information Module (DIM)	-	
	7/93	Occupant Weight Sensor (OWS)	-	
	7/192	Temperature sensor, evaporator	-	
F11	9/1	Front 12V outlet	-	15
	9/25	Rear 12V outlet	-	
F14	6/3	Right-hand headlight wiper motor, V70	-	15
	6/4	Left-hand headlight wiper motor, V70	-	
F15	4/16	Brake Control Module (BCM)	-	5
F16	4/99	Electronic power steering control module	-	10
	6/38	Left-hand headlight level adjustment motor	-	
	6/39	Right-hand headlight adjustment motor	-	
	8/76	Gas tank valve	4/58	
	8/84	Switch, vacuum pump	4/58	
	8/88	Solenoid, gas tank CNG rear	4/58	
	8/90	Solenoid, fuel tank CNG front right	4/58	
	10/1	Left front lamp housing, Bi-Xenon	-	
	10/2	Right front lamp housing, Bi-Xenon	-	

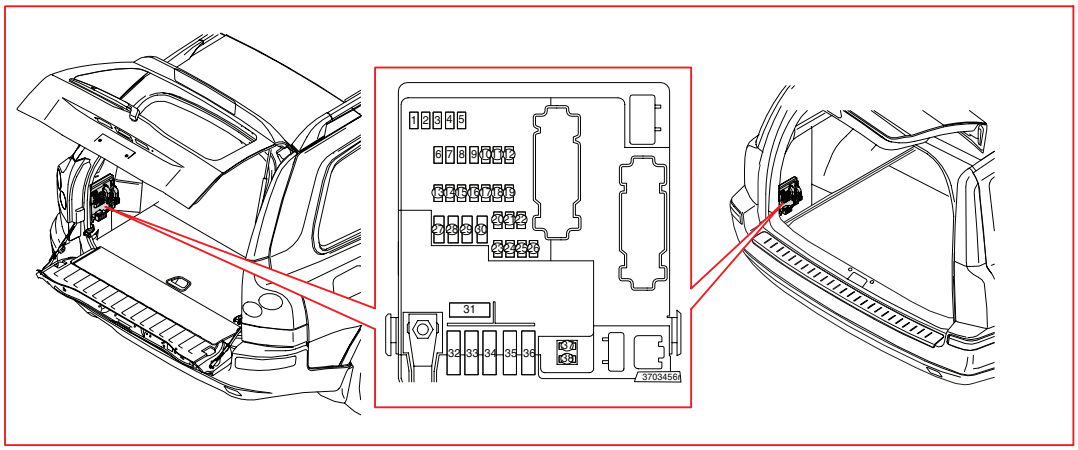
Fuses
Central Electronic Module (CEM) F17-F34



4/56 Central Electronic Module (CEM)

No.	Fuse function		via	A
F17	10/5	Front left fog light	-	7.5
F18	10/6	Front right fog light	-	7.5
F21	3/156 4/28	Gear Selector Module (GSM) Transmission Control Module (TCM)	- -	10
F22	10/68	Left-hand high beam	-	10
F23	10/64	Right-hand high beam	-	10
F28	3/27 16/1	Power passenger seat module Audio Module (AUM), V70	- -	5
F30	27/3 27/4	Left-hand Camera Module (LCM) Right-hand Camera Module (RCM)	- -	5
F33	6/114	Vacuum pump	8/84	20
F34	6/3 6/4 6/127	Right-hand headlight wiper motor Left-hand headlight wiper motor Washer pump	- - -	15

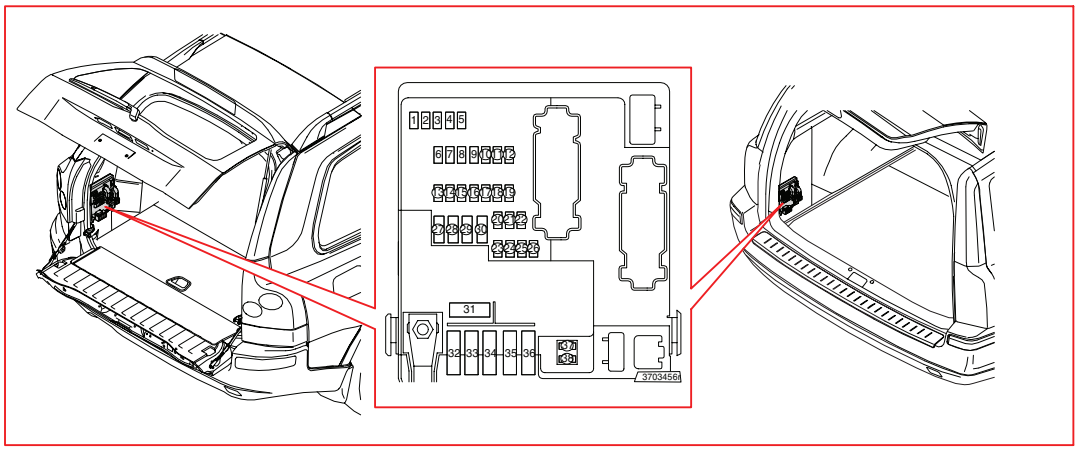
Fuses
Rear Electronic Module (REM) F1-F19



4/58 Rear Electronic Module (REM)

No.	Fuse function		via	A
F1	10/48	Right-hand reversing light	-	10
	10/55	Left-hand reversing light	-	
F2	10/42	Position/parking light, rear right	-	20
	10/44	Right-hand tail light lamp 1	-	
	10/46	Fog light, right rear	-	
	10/49	Position/parking light, rear left	-	
	10/51	Left-hand tail light lamp 1	-	
	10/53	Fog light, left rear	-	
	10/173	Cargo compartment lighting, tailgate	-	
	10/45	Tail light 2, right, V70	-	
	10/52	Tail light 2, left, V70	-	
F3	4/78	Accessory Electronic Module (AEM)	-	15
F5	4/58	Rear Electronic Module (REM)	-	10
F6	16/15	CD changer, V70	-	7.5
	16/36	TV receiver, V70	16/45	
	16/45	Road Traffic Information module (RTI), V70	-	
	16/110	Antenna control module (ATM), XC90	-	
	54/98	Accessory wiring connector, XC90	-	
F7	17/39	13-pin outlet, towbar cable harness	-	15
F8	17/19	12V outlet, cargo compartment	-	15
F9	2/139	Deadlock relay, right-hand rear door	-	20
	3/86	Rear right door power window switch	-	
	6/93	Motor, rear right power window	3/86	
F10	2/138	Deadlock relay, left-hand rear door	-	20
	3/85	Rear left door power window switch	-	
	6/92	Motor, rear left power window	3/85	
F13	8/85	Thermostatic switch and fuel filter heating	-	15
F14	6/76	Climate control system, rear	-	15
	16/79	Subwoofer Module (SUB)	-	
F19	6/32	Rear window wiper motor	-	15

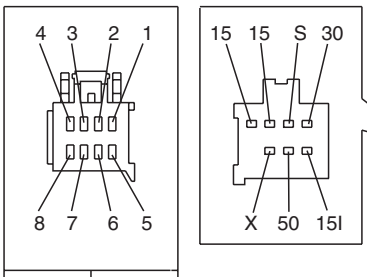
Fuses
Rear Electronic Module (REM) F20-F38



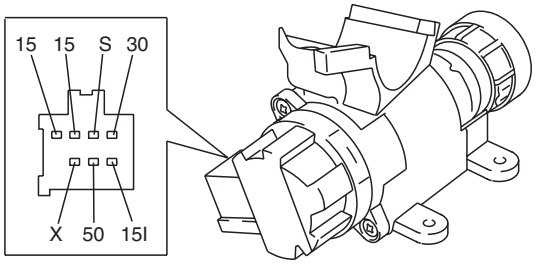
4/58 Rear Electronic Module (REM)

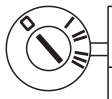
No.	Fuse function		via	A
F20	17/39	13-pin outlet, towbar cable harness	-	20
F23	4/82	Differential Electronic Module (DEM)	-	7.5
F24	4/84	Suspension Module (SUM)	-	15
F26	4/86	Parking Assistance Module (PAM)	-	5
F27		Main fuse for F23, F24, F26 and trailer functions	-	30
F28	3/76 3/77 3/78 6/37	Left-hand rear door lock unit Right-hand rear door lock unit Trunk lid lock unit Lock motor, fuel filler flap	- - - -	15
F29	4/110	Trailer Module (TRM) - position lights - left-hand direction indicator	- - -	25
F30	4/110	Trailer Module (TRM) - brake lights - fog lights - right-hand direction indicator	- - - -	25
F31		Main fuse for F37-F38	-	40
F37	9/2	Heated rear window	-	20
F38	9/2	Heated rear window	-	20

Relays
Ignition switch and relays



Term.	Color
1	BL-R
2	-
3	Y
4	R-SB
5	-
6	VO
7	Y-W
8	BL

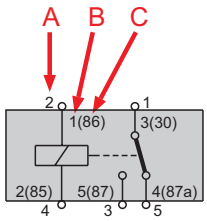




Position	Terminal						
	30	15	15	X	15I	S	50
Key Out	X						
0	X					X	
I	X			X		X	
II	X	X	X	X	X	X	
III	X	X	X			X	X

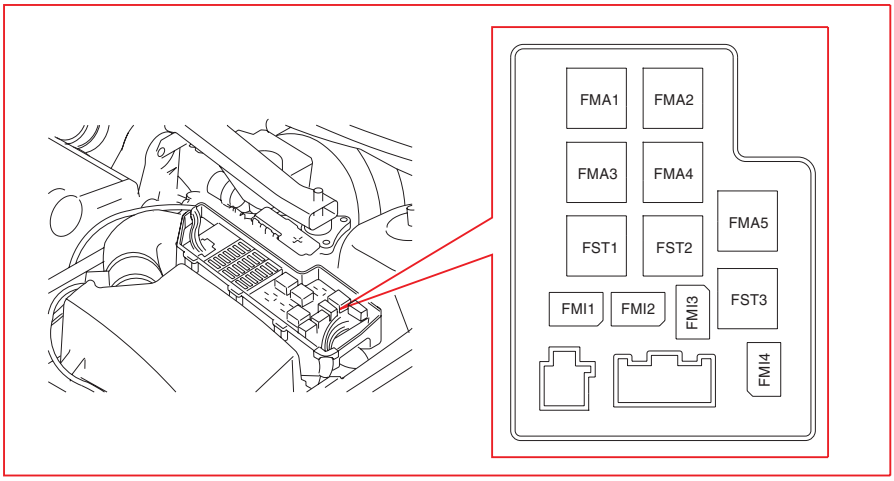
Relays, general

The diagram indicates two or three different designations for the relay's position. This is described below.



A = Corresponds to the position on the back of the relay box (wiring side)
B = Corresponds to the position on the relay.
C = An old designation that may be found on the relay.

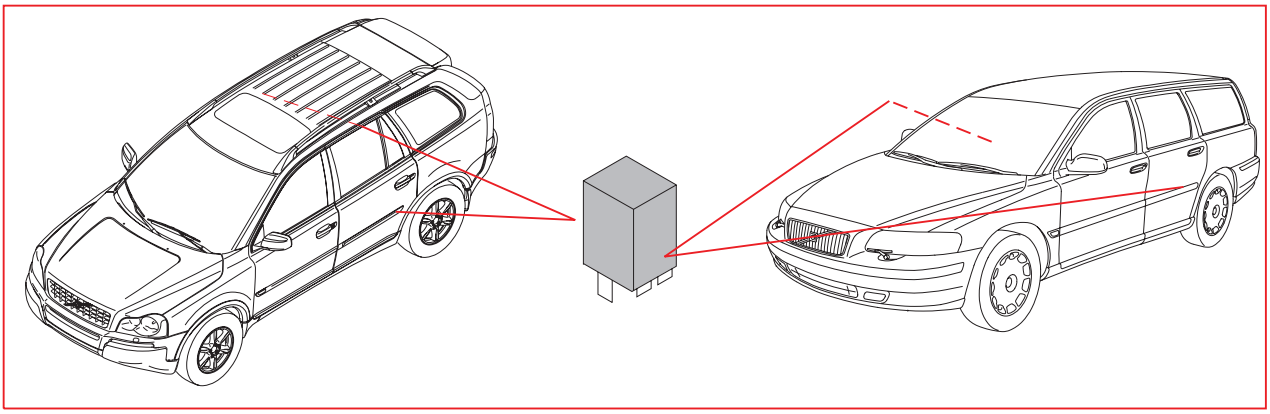
Relays
Engine compartment FMA2 - FST3



Relays in the engine compartment

Pos	Relay function	
FMA2	2/32	Engine management system main relay
FMA3	2/14	Relay, glow plug unit
FMA4	2/35	Starter motor relay
FMI1	2/22	Relay, climate control system
FMI2	2/33	Relay, fuel system, CNG/LPG, V70
FST1	2/91	Relay, intermittent wiping
FST2	2/182	Relay, headlight washer motor
FST3	2/90	Relay, windshield wiper, low/high speed

Relays
Other relays



Other relays

Pos	Relay function	
Left-hand rear door	2/138	Deadlock relay, left-hand rear door
Right-hand rear door	2/139	Deadlock relay, right-hand rear door

Ground connections
31/1 - 31/46

31/1	Right MacPherson strut tower
6/3	Right-hand headlight wiper motor, V70/XC70
6/104	Pump, high pressure headlight washer
7/5	Washer fluid level sensor

31/2	Left MacPherson strut tower
4/71	Cooling fan control module

31/4	Engine
31/44	Ground connection

31/6	A-post, left-hand side
3/6	Hazard warning flasher switch
4/31	Fan control module, RHD
4/33	Sunroof Control Module (SRM)
4/56	Central Electronic Module (CEM), LHD
10/29	Glove compartment lighting
10/125	Left-hand front courtesy lighting
10/126	Right-hand front courtesy lighting
16/65	Antenna ring/ignition switch lighting

31/10	A-post, right-hand side
4/31	Fan control module, LHD
4/56	Central Electronic Module (CEM), RHD
4/84	Suspension Module (SUM)
9/1	Front 12V outlet
9/25	Rear 12V outlet

31/44	Left-hand side member, lower engine compartment
31/4	Ground connection

31/46	Rear seat support, left-hand side
3/27	Switch unit, power passenger seat, RHD
3/76	Left-hand rear door lock unit
3/85	Rear left door power window switch
4/52	Power Seat Module (PSM), LHD
4/82	Differential Electronic Module (DEM)
8/51	Front left side airbag igniter
9/12	Left seat heater

Ground connections
31/47 - 31/70

31/47	Rear seat support, left-hand side
4/58	Rear Electronic Module (REM)
8/66	Igniter, left-hand inflatable curtain, V70/XC70

31/48	Rear seat support, right-hand side
4/83	Fuel pump control module
6/31	Feed pump, ejectors
6/33	Fuel pump

31/53	Firewall
1/1	Battery

31/66	Front seat support, left-hand side
3/126	Driver/Passenger Door Module (DDM)/(PDM)
10/15	Direction indicator, left front door, XC90
27/3	Left-hand Camera Module (LCM)

31/67	Front seat support, right-hand side
2/139	Deadlock relay, right-hand rear door, PCL
3/27	Switch unit, power passenger seat, LHD
3/77	Right-hand rear door lock unit, PCL
3/86	Rear right door power window switch
3/127	Passenger/Driver Door Module (PDM)/(DDM)
4/52	Power Seat Module (PSM), RHD
6/35	Fuel pump, auxiliary heater
7/93	Occupant Weight Sensor (OWS)
8/52	Front right side airbag igniter
9/13	Right seat warmer
10/16	Direction indicator, right front door, XC90
27/4	Right-hand Camera Module (RCM)

31/70	Left-hand side member, lower engine compartment
10/65	Front right auxiliary light, accessory
10/69	Front left auxiliary light, accessory

Ground connections
31/72 - 31/83

31/72	Rear seat support, left-hand side
4/58	Rear Electronic Module (REM)
4/86	Parking Assistance Module (PAM)
6/32	Rear window wiper motor, V70/XC70
6/76	Climate control system, rear
7/100	Inclination Sensor Module (ISM)
8/66	Left-hand inflatable curtain igniter, XC90
9/2	Heated rear window
10/18	Rear left lamp housing
16/15	CD changer, accessories, V70/XC70
16/45	Road Traffic Information, RTI, V70/XC70

31/73	Rear seat support, right-hand side
8/76	Gas tank valve, Bi-Fuel
8/85	Thermostatic switch, fuel filter, Diesel
8/88	Solenoid, fuel tank CNG rear, Bi-Fuel
8/89	Solenoid, fuel tank CNG front left, Bi-Fuel
8/90	Solenoid, fuel tank CNG front right, Bi-Fuel
10/17	Rear right lamp housing
16/79	Subwoofer Module (SUB)
17/19	12V outlet, cargo compartment
54/98	Accessory wiring connector, XC90

31/83	A-post, left-hand side
3/117	Dome light control module
4/33	Sunroof Control Module (SRM)
4/70	Upper Electronic Module (UEM)
5/1	Driver Information Module (DIM)
7/122	Mass Movement Sensor (MMS), front
7/149	Rain Sensor Module (RSM)
7/158	Mass Movement Sensor (MMS), rear XC90
10/25	Ceiling light, cargo compartment, V70/XC70
10/114	Left-hand vanity mirror lighting
10/150	Rear reading light
10/172	Reading light, third row of seats, XC90
16/65	Antenna ring/ignition switch lighting
16/108	Multimedia module (MMM), XC90
31/98	Ground connection

Ground connections
31/84 - 31/91

31/84	A-post, right-hand side
3/111	Light Switch Module (LSM)
3/112	Climate Control Module (CCM)
3/254	Steering Wheel Module (SWM)
7/192	Water detection sensor
16/1	Audio Module (AUM), V70/XC70
16/2	Amplifier, auxiliary V70/XC70
16/46	RTI Display
16/60	Phone Module (PHM)
16/94	Infotainment Control Module (ICM), XC90
16/105	Audio control module (AUD), XC90
16/106	CD player (MP2), XC90
16/107	MD player (MP1), XC90
17/13	Data link connector
54/112	Accessory wiring connector, XC90

31/88	Engine, ignition coils, group 1
20/3	Spark plug and ignition coil
20/4	Spark plug and ignition coil

31/89	Engine, ignition coils, group 2
20/5	Spark plug and ignition coil
20/6	Spark plug and ignition coil
20/7	Spark plug and ignition coil
20/8	Spark plug and ignition coil

31/91	Engine
4/50	Electronic Throttle Module (ETM), Bi-Fuel
9/32	PTC resistor, air preheating, Bi-Fuel

Ground connections
31/93 - 31/95

31/93	Left MacPherson strut tower
3/10	Reversing light contact, MAN
3/62	Hood alarm contact
4/56	Central Electronic Module (CEM)
4/99	Electronic power steering control module
6/1	Windshield wiper motor
6/38	Left-hand headlight level adjustment motor
6/114	Vacuum pump
6/4	Left-hand headlight wiper motor, V70/XC70
7/4	Brake fluid level sensor
7/73	Coolant level sensor
7/51	Accelerator pedal sensor
8/37	Automatic transmission
8/79	Valve LPG, Bi-Fuel
8/134	Solenoid, reverse interlock, manual
10/1	Left-hand front lamp housing
10/5	Front left fog light, V70/XC70
10/11	Front left parking light
10/13	Front left direction indicator
10/15	Front left fender direction indicator, EU/OS, V70/XC70
10/71	Front left side marker light
15/31	Engine compartment distribution box
16/10	Horn 1
16/11	Horn 2, V70/XC70
54/9	Connector

31/94	Right MacPherson strut tower
4/28	Transmission Control Module (TCM), AUTO
6/39	Right-hand headlight adjustment motor
10/2	Right-hand front lamp housing
10/6	Front right fog light
10/12	Front right parking light
10/14	Front right direction indicator
10/16	Front right fender direction indicator, EU/OS, V70/XC70
10/73	Front right side marker light
16/35	Siren Control Module (SCM)

31/95	Left MacPherson strut tower
4/16	Brake Control Module (BCM)

Ground connection
31/96 - 31/120

31/96	Right MacPherson strut tower
4/46	Engine Control Module (ECM)
6/105	Fuel distributor, gas
9/32	PTC resistor - air preheating

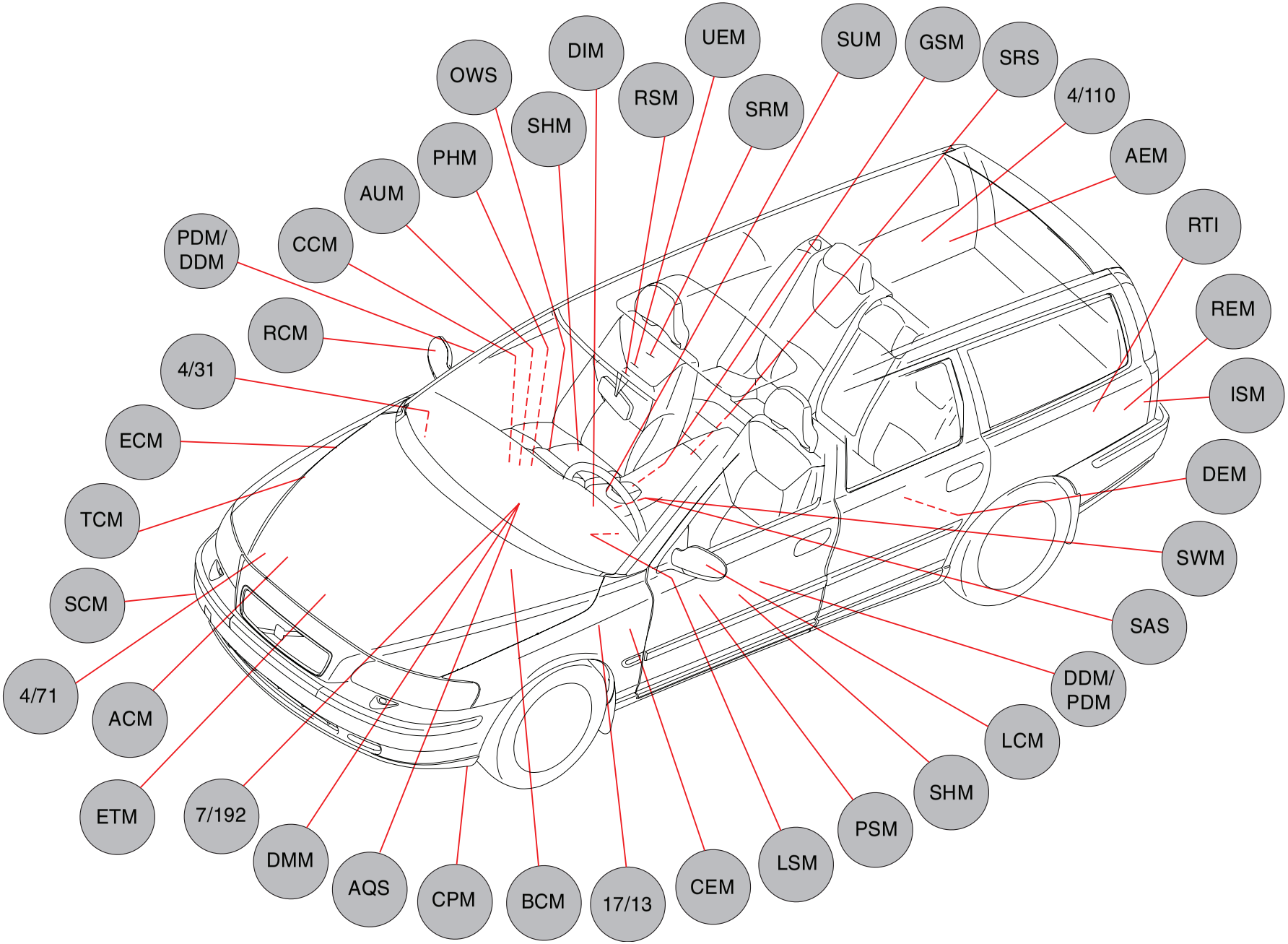
31/98	Windshield member, upper
3/117	Dome light control module
4/33	Sunroof Control Module (SRM)
4/70	Upper Electronic Module (UEM)
5/1	Driver Information Module (DIM)
7/122	Mass Movement Sensor (MMS), front
7/149	Rain Sensor Module (RSM)
7/158	Mass Movement Sensor (MMS), rear
10/25	Ceiling light, cargo compartment, V70/XC70
10/114	Left-hand vanity mirror lighting
10/115	Right-hand vanity mirror lighting
10/150	Rear reading light
10/172	Reading light, third row of seats, XC90
16/65	Antenna ring/ignition switch lighting
16/108	Multimedia module (MMM), XC90
31/83	Ground connection

31/99	Left-hand side window
7/135	Glass breakage sensor, left-hand, V70/XC70

31/102	Front member
2/192	Relay (230V), engine heater, accessory

31/120	Cargo compartment
4/78	Accessory Electronic Module (AEM)
4/110	Trailer Module (TRM)
17/39	13-pin outlet, towbar cable harness

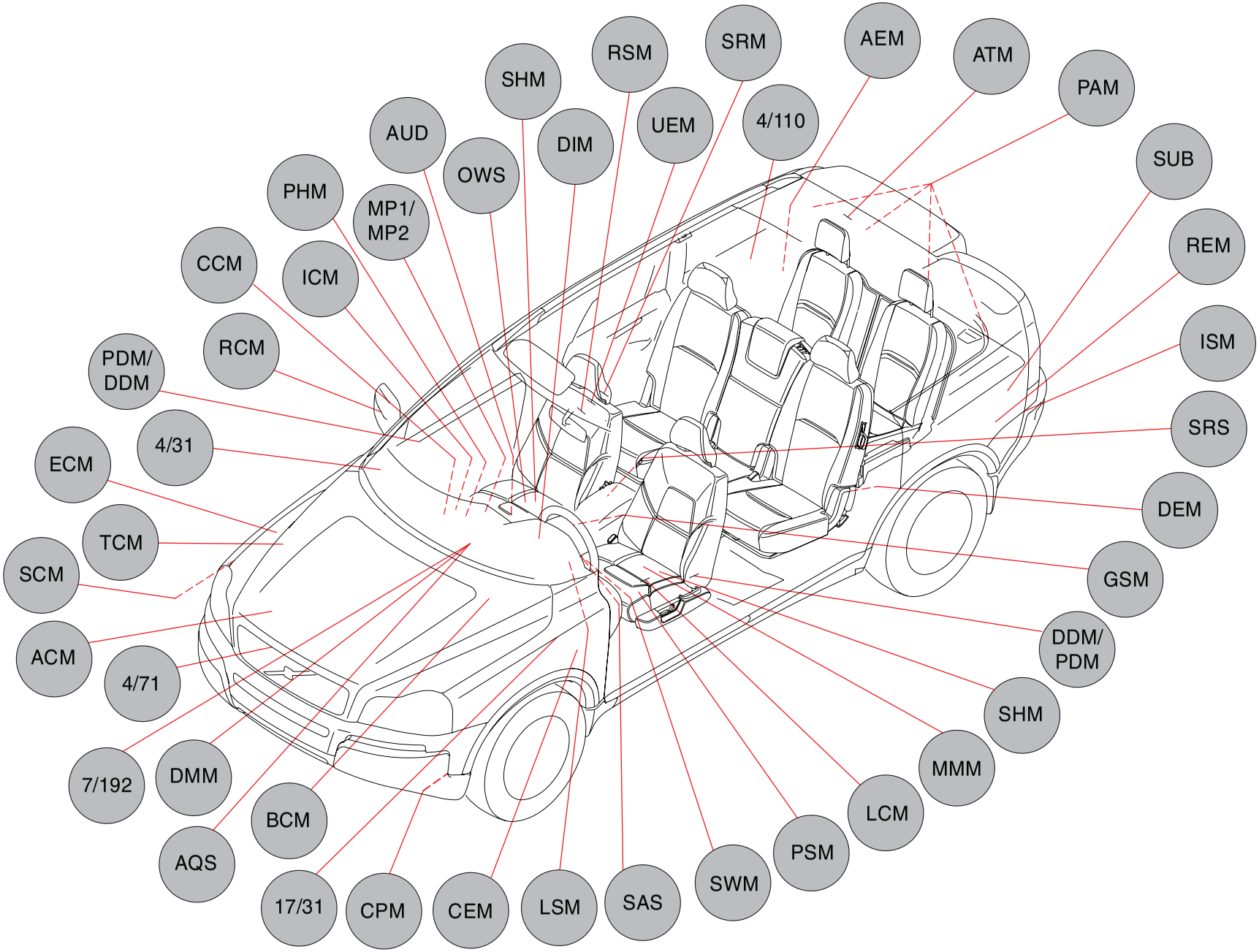
Control modules
Overview of locations V70/XC70



Control modules
Overview of designations V70/XC70

Unit	Designation	
ACM	6/26	Alternator Control Module (ACM)
AEM	4/78	Accessory Electronic Module (AEM)
AQS	7/159	Air Quality Sensor (AQS)
AUM	16/1	Audio Module (AUM)
BCM	4/16	Brake Control Module (BCM)
CCM	3/112	Climate Control Module (CCM)
CEM	4/56	Central Electronic Module (CEM)
CPM	4/7	Combustion Preheater Module (CPM)
DDM/PDM	3/126	Driver/Passenger Door Module (DDM)/(PDM)
DEM	4/82	Differential Electronic Module (DEM)
DIM	5/1	Driver Information Module (DIM)
DMM		Damper Motor Module (DMM) -6/48 Damper Motor Module (DMM), recirculation -6/69 Damper Motor Module (DMM), ventilation/floor/defroster -6/95 Damper Motor Module (DMM), temperature, left-hand side -6/96 Damper Motor Module (DMM), temperature, right-hand side -6/102 Damper Motor Module (DMM), defroster -6/103 Damper Motor Module (DMM), floor/ventilation
ECM	4/46	Engine Control Module (ECM)
ETM	4/50	Electronic Throttle Module (ETM)
GSM	3/156	Gear Selector Module (GSM)
ISM	7/100	Inclination Sensor Module (ISM)
LCM	27/3	Left-hand Camera Module (LCM)
LSM	3/111	Light Switch Module (LSM)
OWS	7/93	Occupant Weight Sensor (OWS)
PDM/DDM	3/127	Passenger/Driver Door Module (PDM)/(DDM)
PHM	16/60	Phone Module (PHM)
PSM	4/52	Power Seat Module (PSM)
RCM	27/4	Right-hand Camera Module (RCM)
REM	4/58	Rear Electronic Module (REM)
RSM	7/149	Rain Sensor Module (RSM)
RTI	16/45	Road Traffic Information (RTI)
SAS	4/68	Steering Angle Sensor module (SAS)
SCM	16/35	Siren Control Module (SCM)
SHM		Seat Heater Module (SHM) -9/12 Seat Heater Module (SHM), left-hand -9/13 Seat Heater Module (SHM), right-hand
SRM	4/33	Sunroof Control Module (SRM)
SRS	4/9	Control module, Supplemental Restraint System (SRS)
SUM	4/84	Suspension Module (SUM)
SWM	3/254	Steering Wheel Module (SWM)
TCM	4/28	Transmission Control Module (TCM)
UEM	4/70	Upper Electronic Module (UEM)
4/31	4/31	Fan control module
4/71	4/71	Cooling fan control module
4/110	4/110	Trailer Module
7/192	7/192	Water detection sensor
17/13	17/13	Data link connector

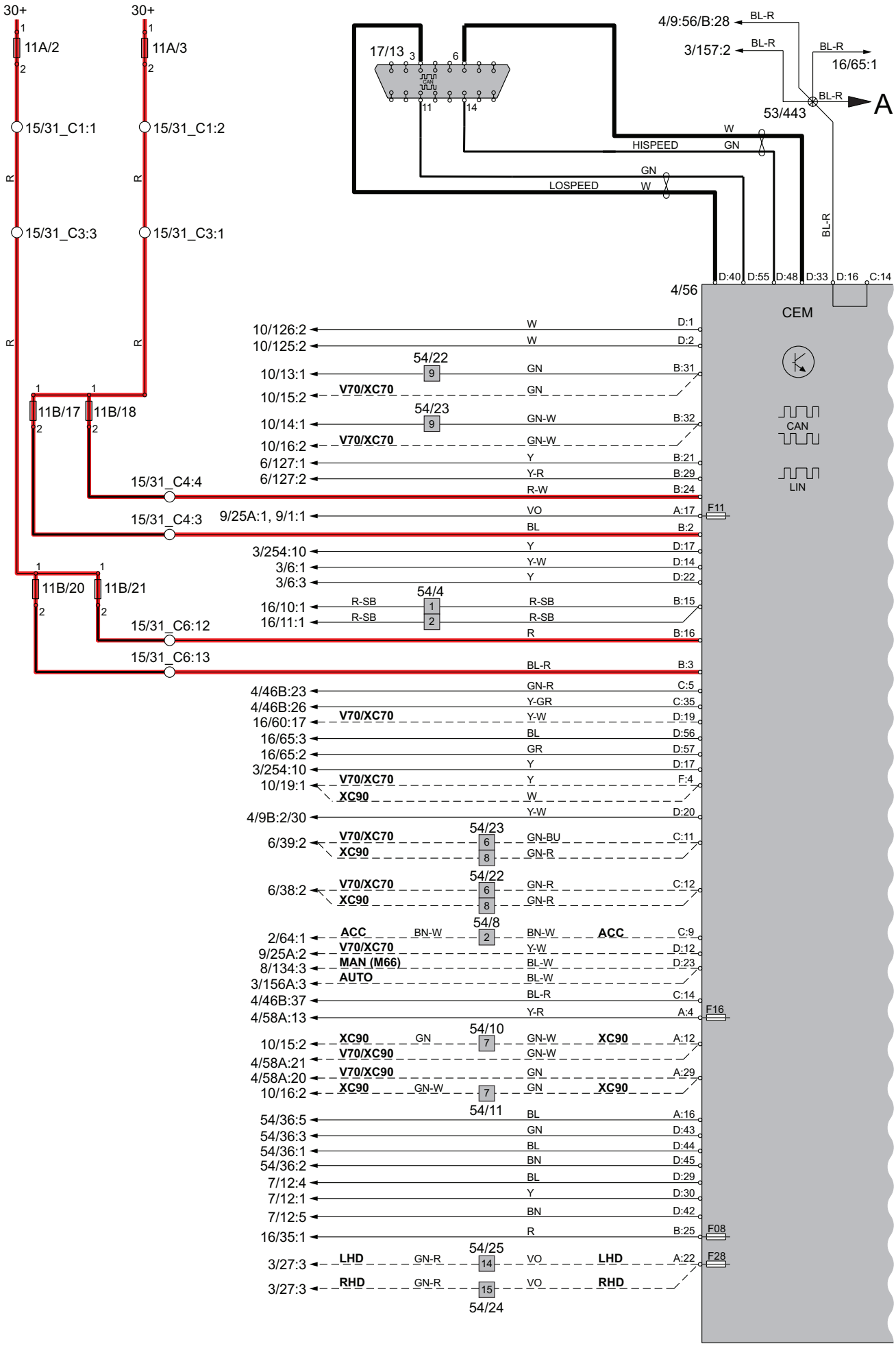
Control modules
Overview of locations XC90



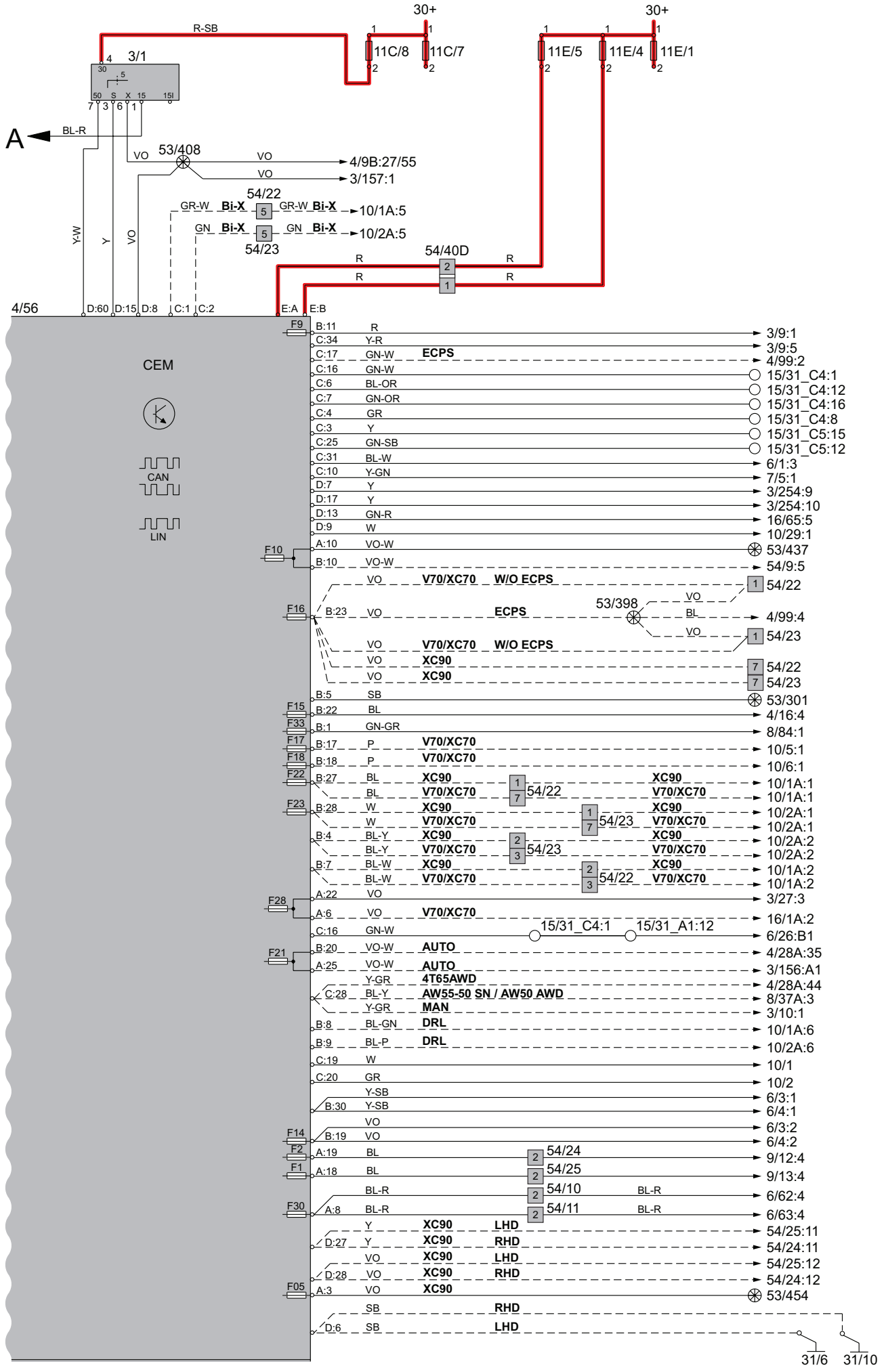
Control modules
Overview of designations XC90

Unit	Designation	
ACM	6/26	Alternator Control Module (ACM)
AEM	4/78	Accessory Electronic Module (AEM)
ATM	16/110	Antenna control module (ATM)
AQS	7/159	Air Quality Sensor (AQS)
AUD	16/105	Audio Module (AUD)
BCM	4/16	Brake Control Module (BCM)
CCM	3/112	Climate Control Module (CCM)
CEM	4/56	Central Electronic Module (CEM)
CPM	4/7	Combustion Preheater Module (CPM)
DDM/PDM	3/126	Driver/Passenger Door Module (DDM)/(PDM)
DEM	4/82	Differential Electronic Module (DEM)
DIM	5/1	Driver Information Module (DIM)
DMM		Damper Motor Module (DMM) -6/48 Damper Motor Module (DMM), recirculation -6/69 Damper Motor Module (DMM), ventilation/floor/defroster -6/95 Damper Motor Module (DMM), left-hand side -6/96 Damper Motor Module (DMM), right-hand side -6/102 Damper Motor Module (DMM), defroster -6/103 Damper Motor Module (DMM), floor/ventilation
ECM	4/46	Engine Control Module (ECM)
GSM	3/156	Gear Selector Module (GSM)
ICM	16/94	Infotainment Control Module (ICM)
ISM	7/100	Inclination Sensor Module (ISM)
LCM	27/3	Left-hand Camera Module (LCM)
LSM	3/111	Light Switch Module (LSM)
MMM	16/108	Multimedia module (MMM)
MP1	16/107	Control module, MD player (MP1)
MP2	16/106	Control module, CD player (MP2)
OWS	7/93	Occupant Weight Sensor (OWS)
PAM	4/86	Parking Assistance Module (PAM)
PDM/DDM	3/127	Passenger/Driver Door Module (PDM)/(DDM)
PHM	16/60	Phone Module (PHM)
PSM	4/52	Power Seat Module (PSM)
RCM	27/4	Right-hand Camera Module (RCM)
REM	4/58	Rear Electronic Module (REM)
RSM	7/149	Rain Sensor Module (RSM)
SAS	4/68	Steering Angle Sensor module (SAS)
SCM	16/35	Siren Control Module (SCM)
SHM		Seat Heater Module (SHM) -9/12 Seat Heater Module (SHM), driver’s side -9/13 Seat Heater Module (SHM), passenger side
SRM	4/33	Sunroof Control Module (SRM)
SRS	4/9	Control module, Supplemental Restraint System (SRS)
SUB	16/79	Subwoofer Module (SUB)
SWM	3/254	Steering Wheel Module (SWM)
TCM	4/28	Transmission Control Module (TCM)
UEM	4/70	Upper Electronic Module (UEM)
4/31	4/31	Fan control module
4/71	4/71	Cooling fan control module
4/110	4/110	Trailer Module
17/13	17/13	Data link connector
7/192	7/192	Water detection sensor

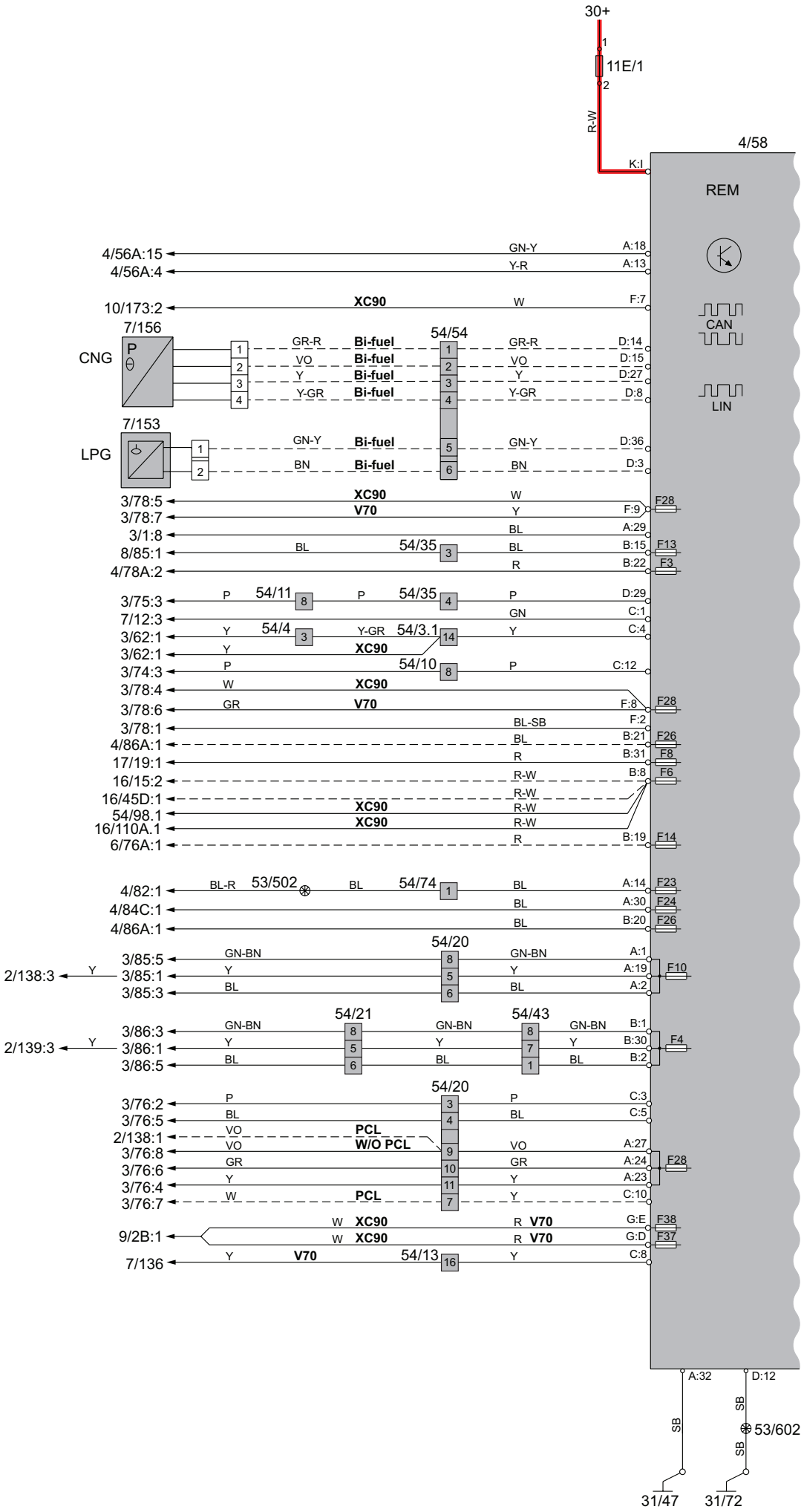
Control modules
Central Electronic Module (CEM) 1:2



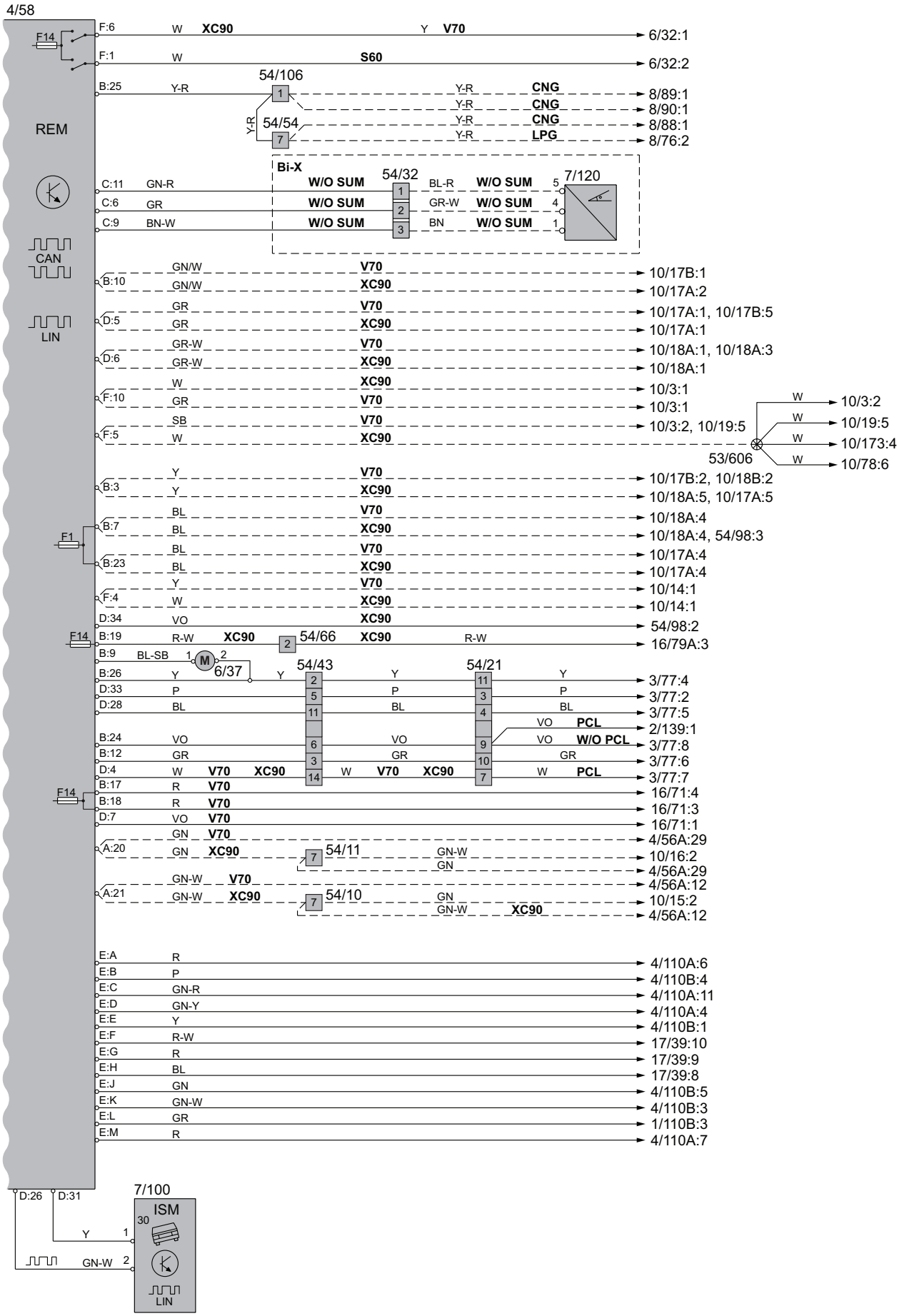
Control modules
Central Electronic Module (CEM) 2:2



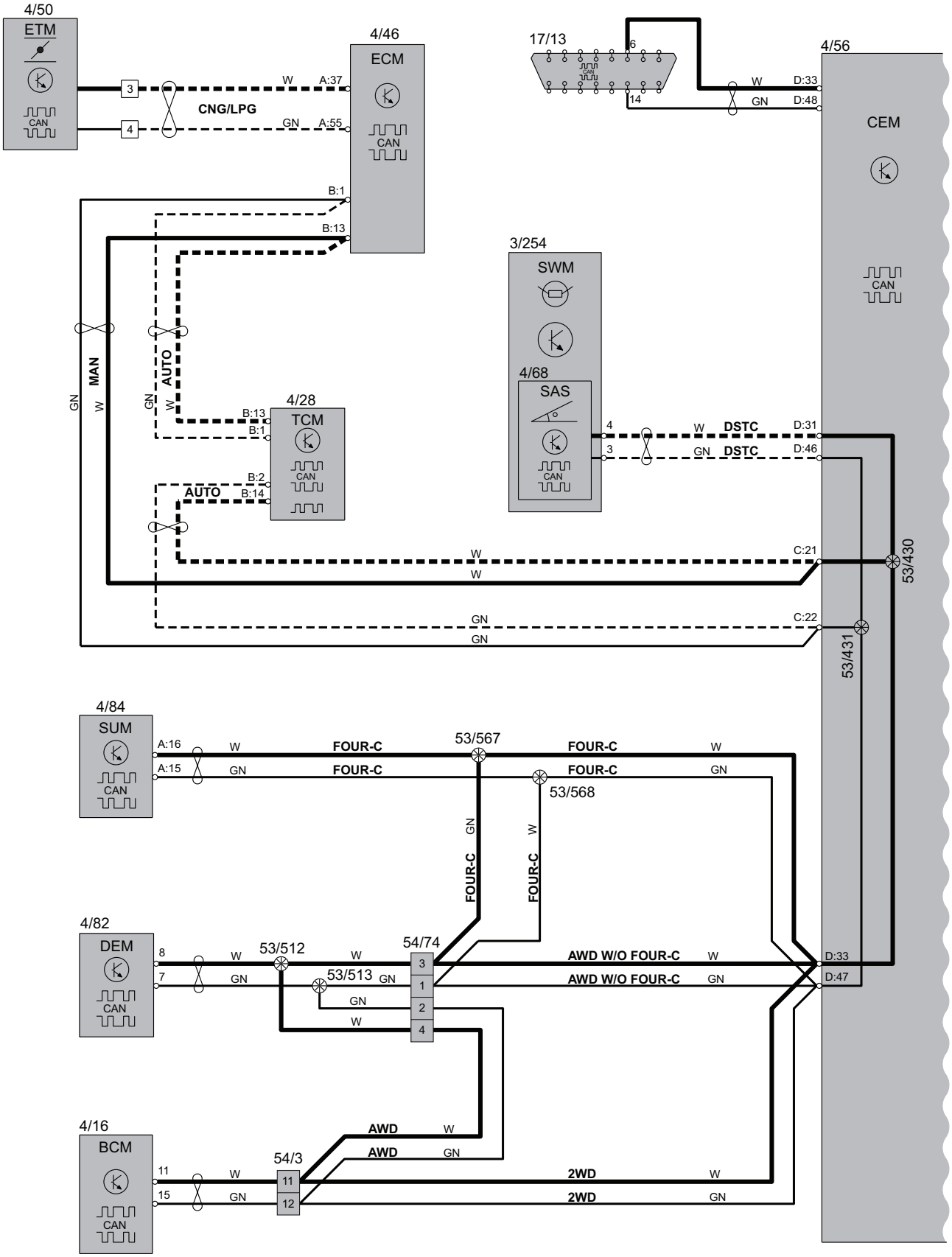
Control modules
Rear Electronic Module (REM) 1:2



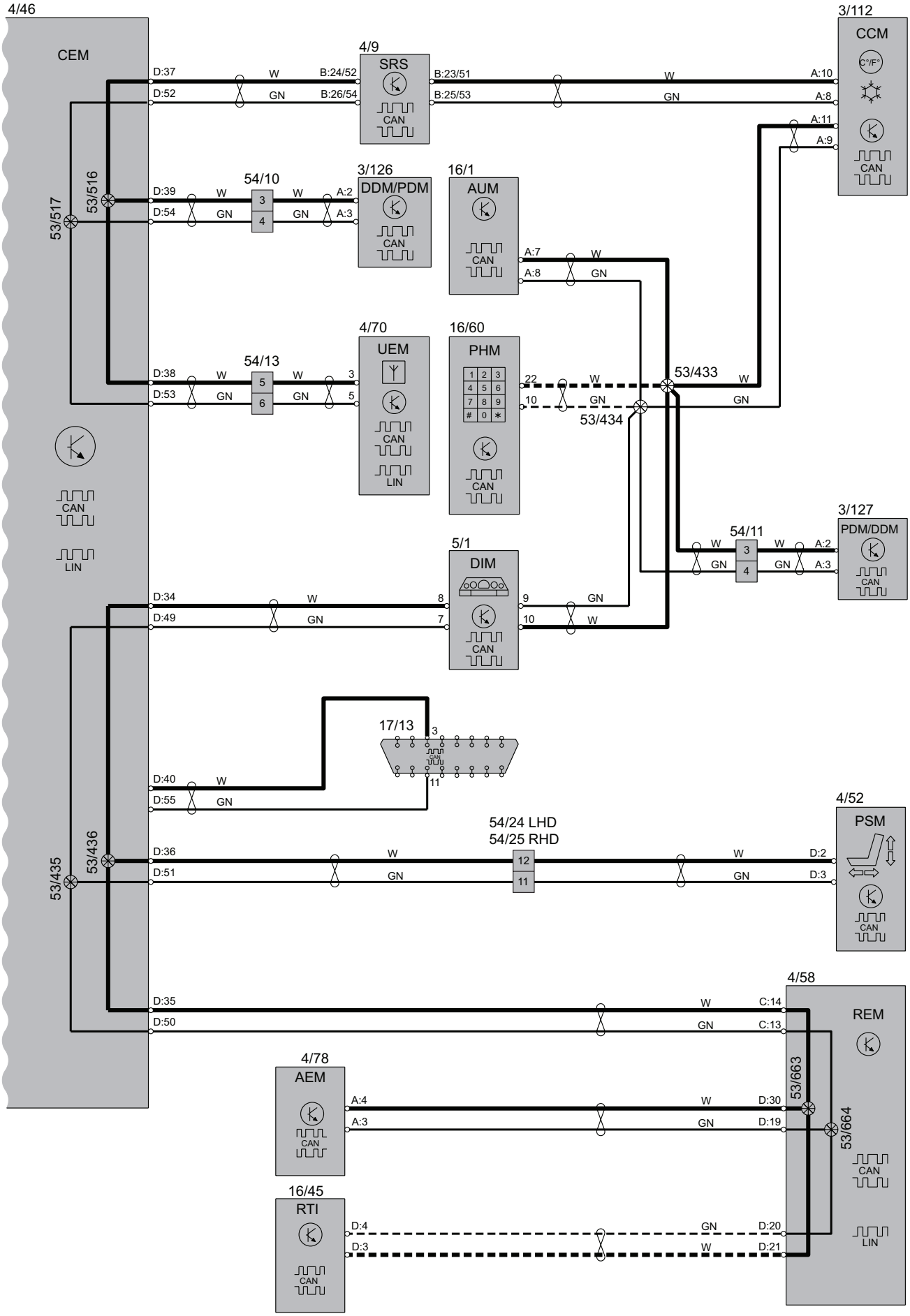
Control modules
Rear Electronic Module (REM) 2:2



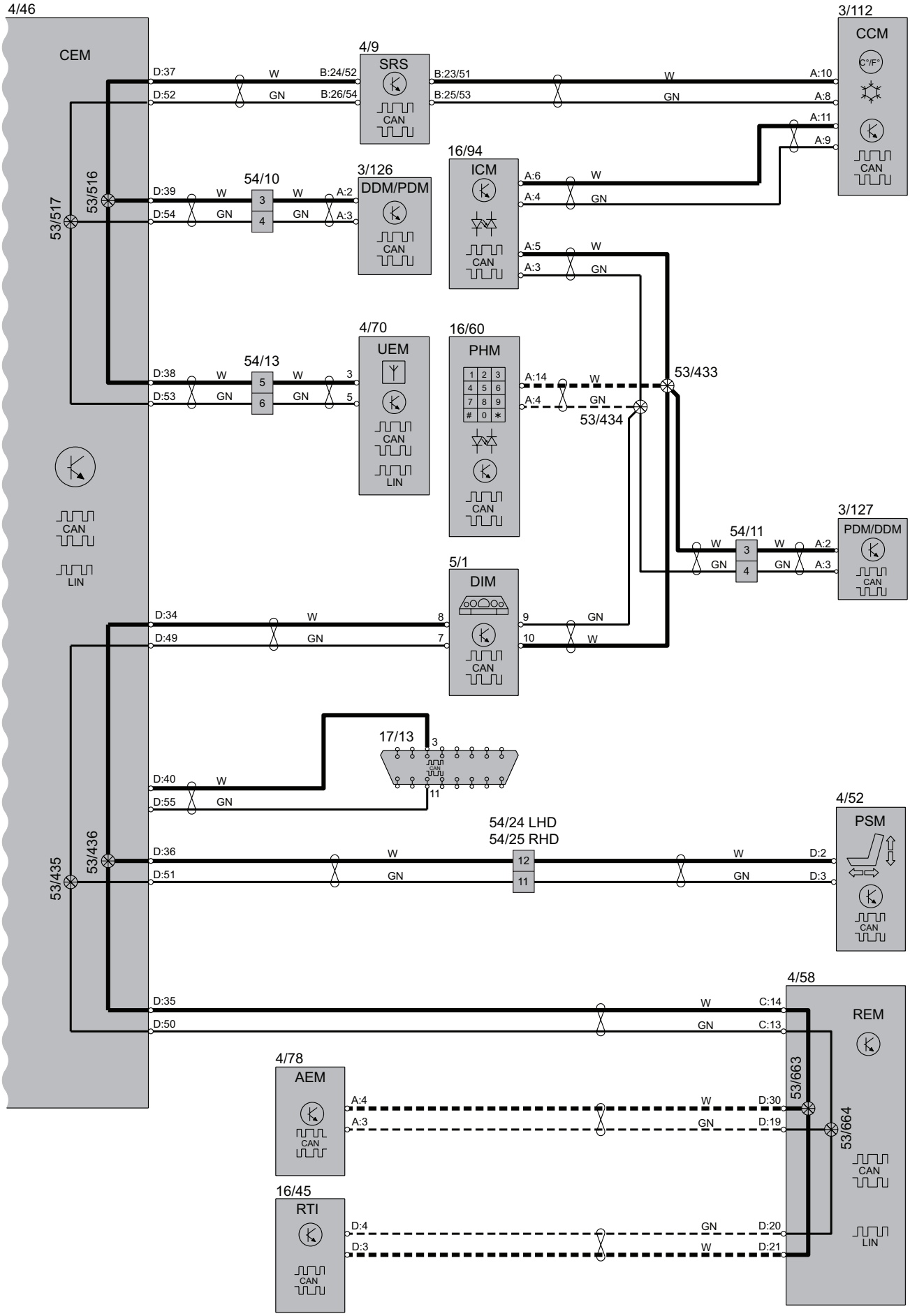
Control modules
High speed CAN data communication



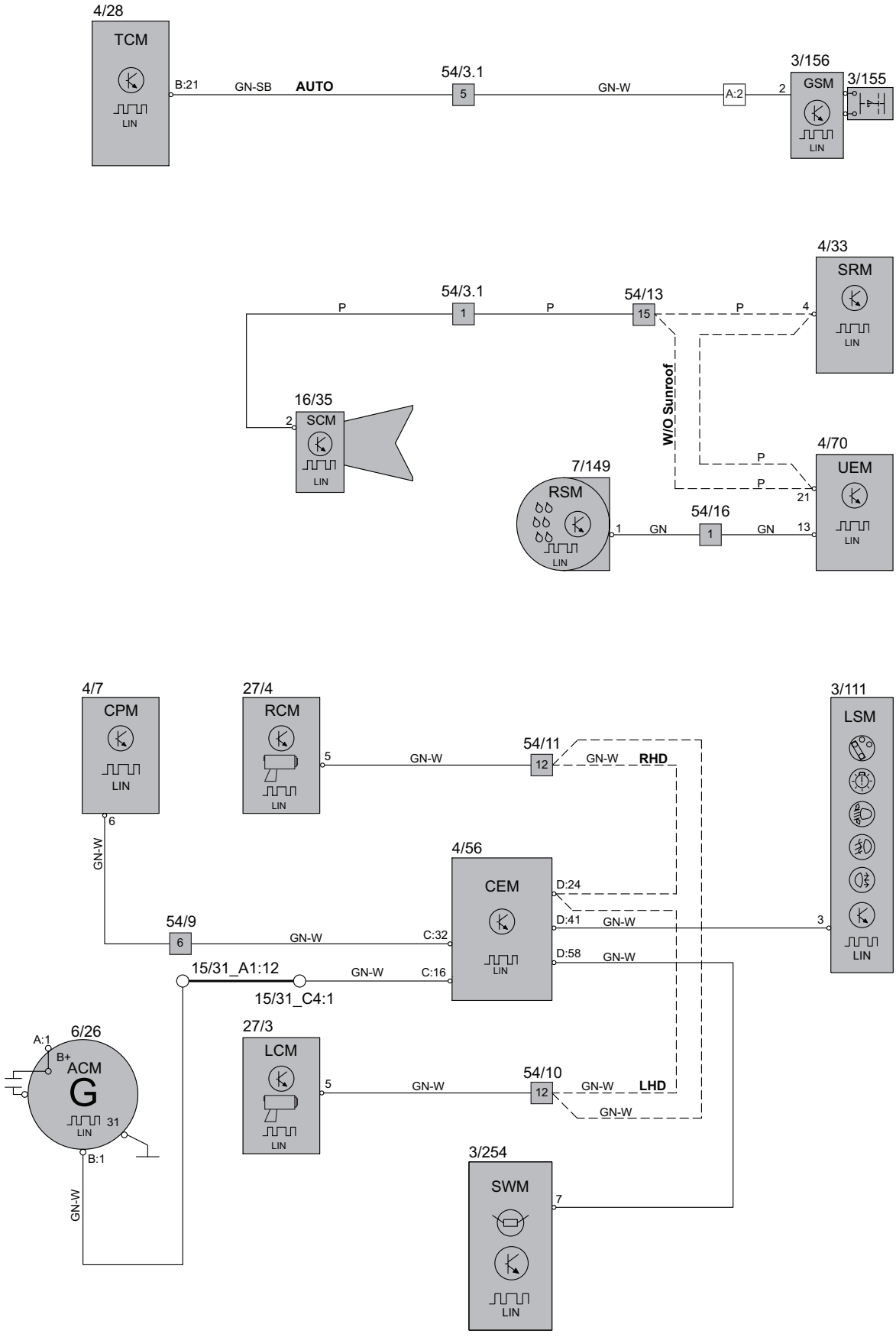
Control modules
Low speed CAN data communication V70/XC70



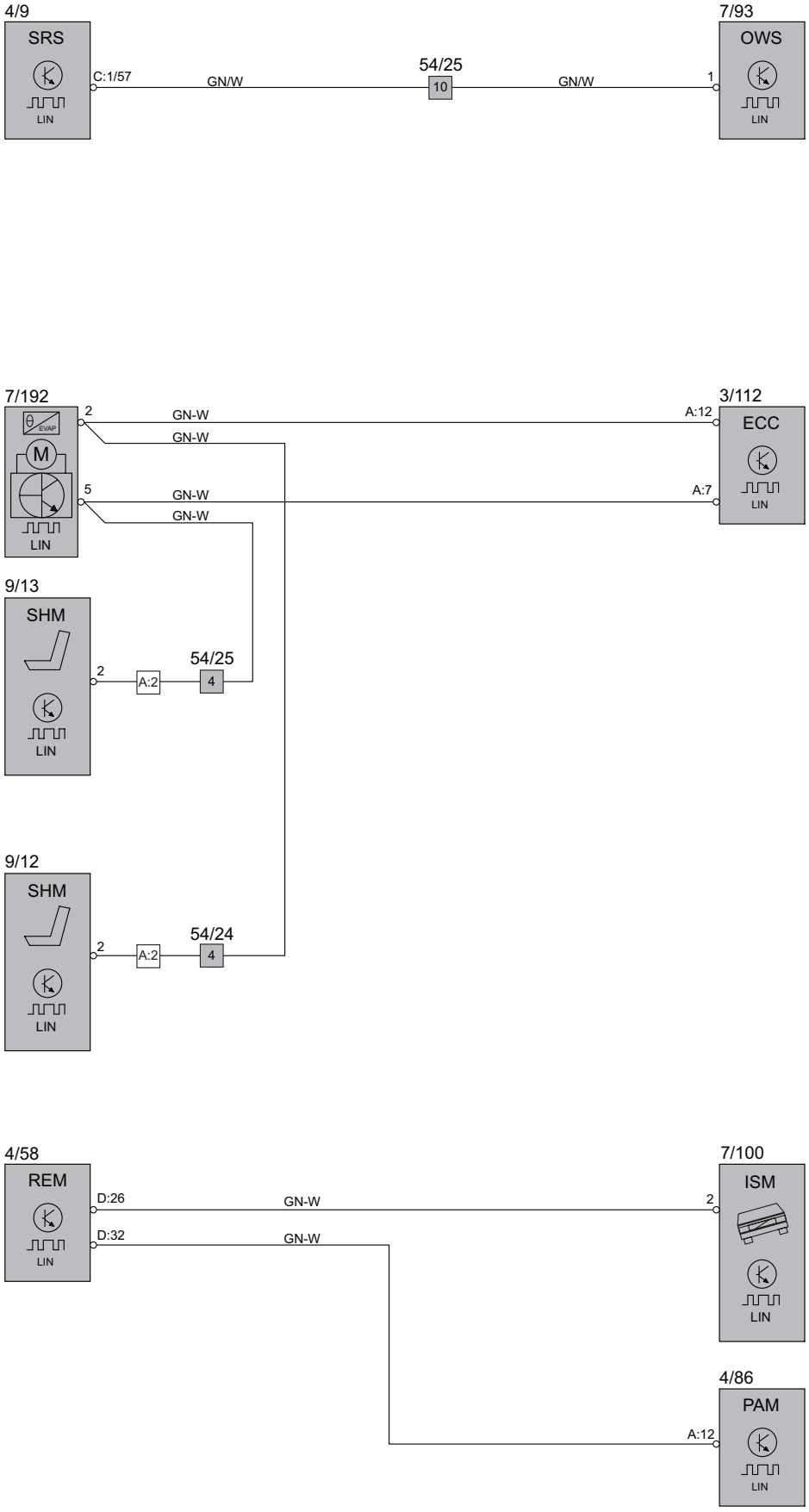
Control modules
Low speed CAN data communication XC90



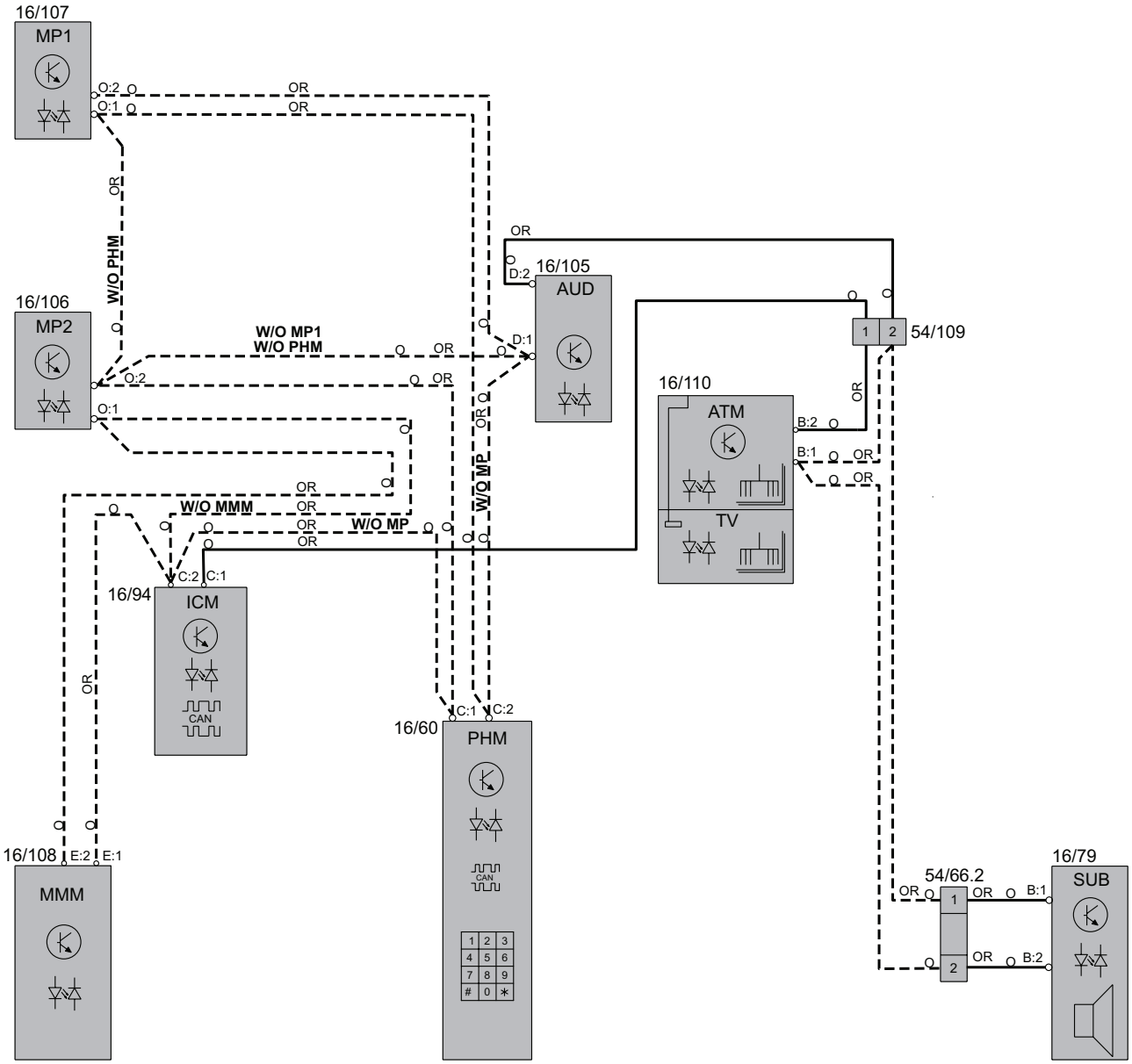
Control modules
LIN data communication 1:2

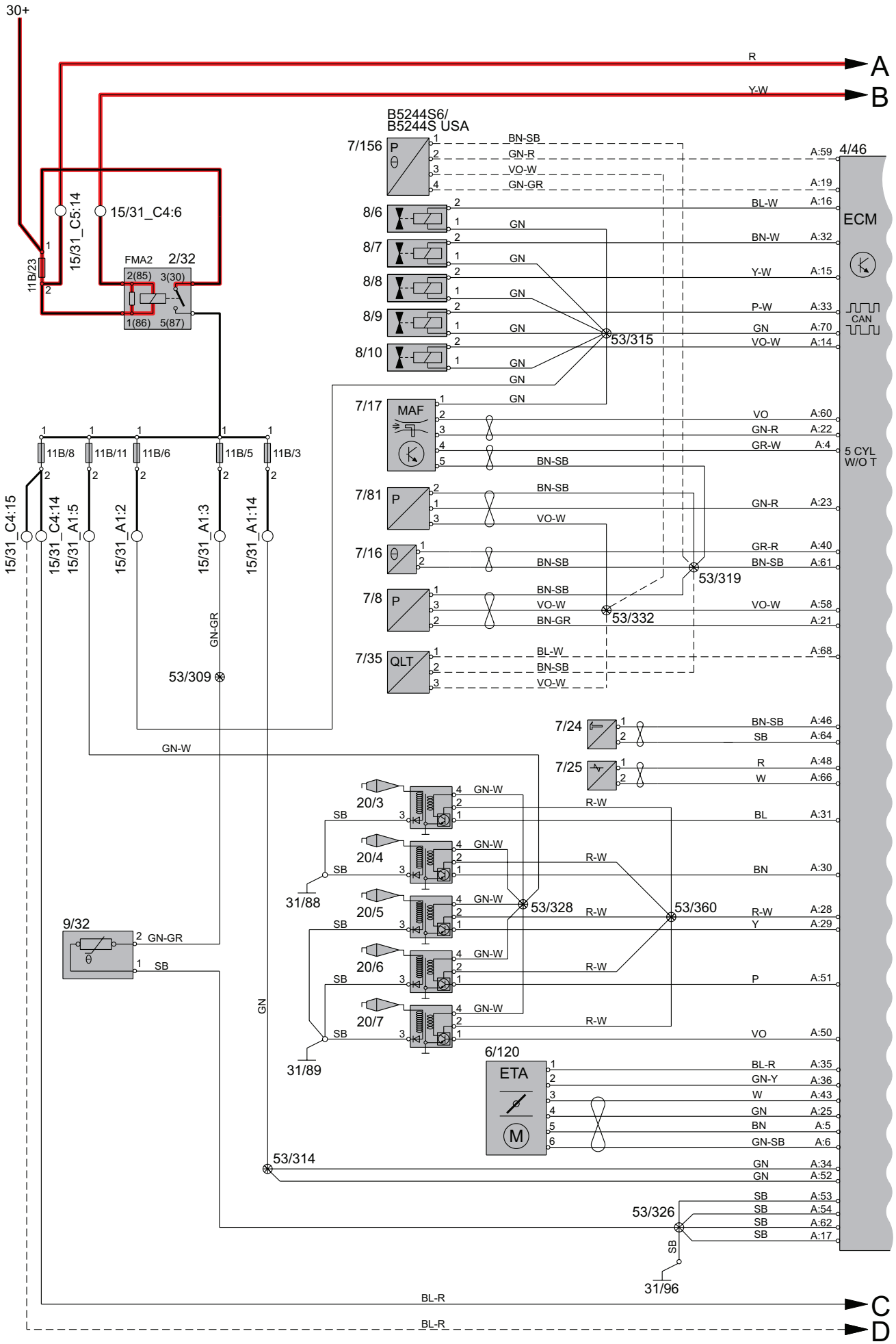


Control modules
LIN data communication 2:2



Control modules
Data communication MOST, XC90

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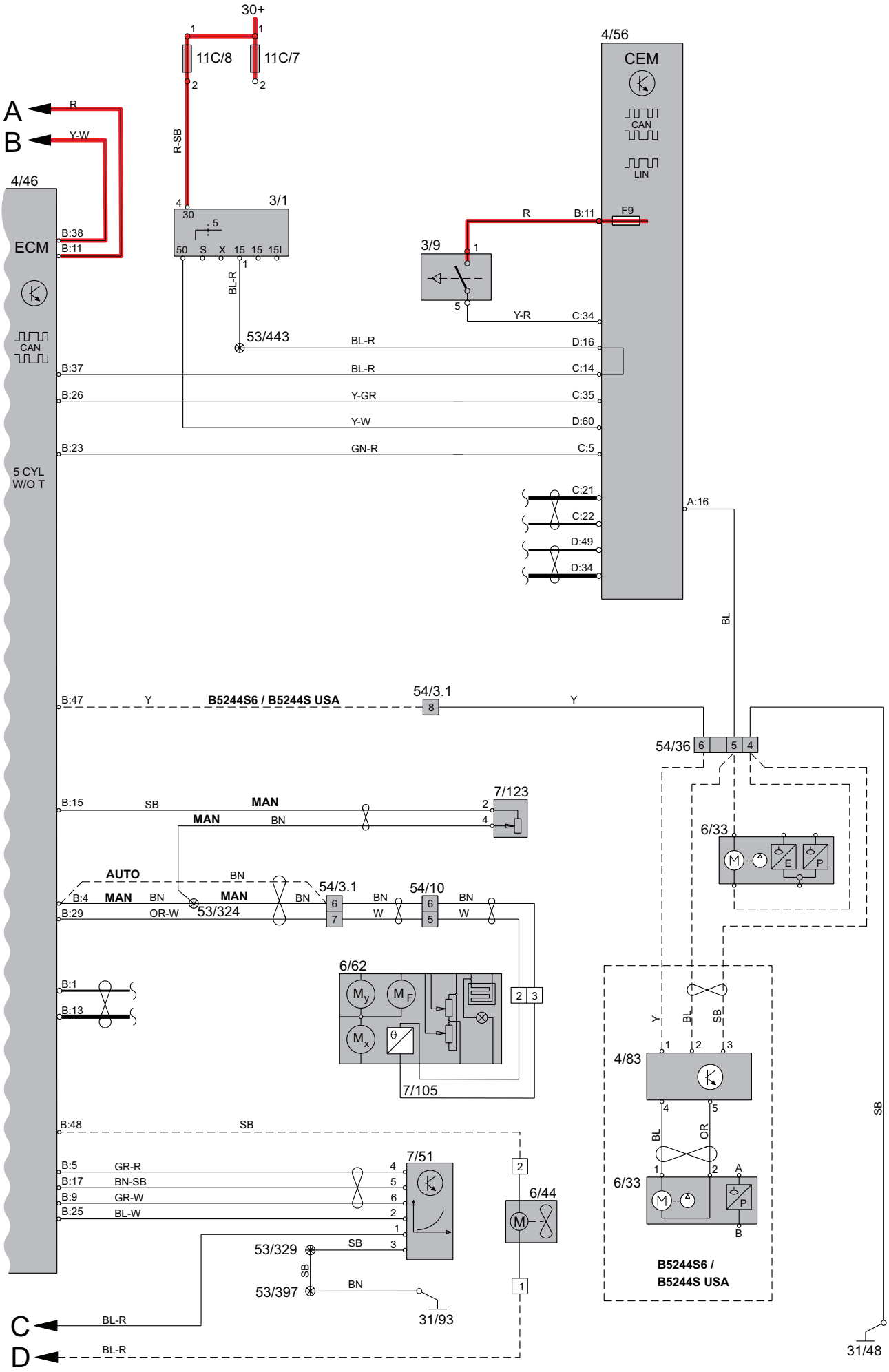
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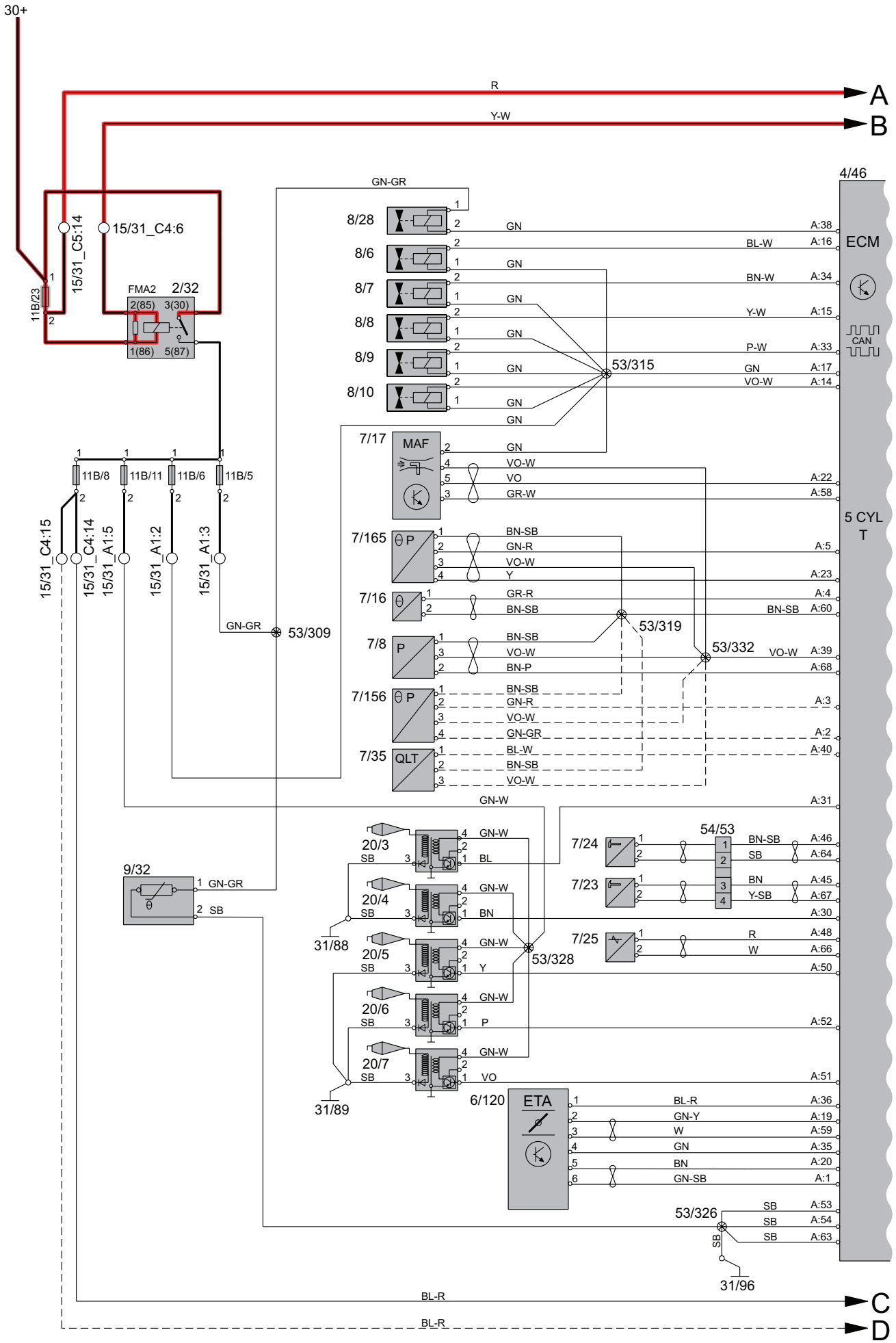
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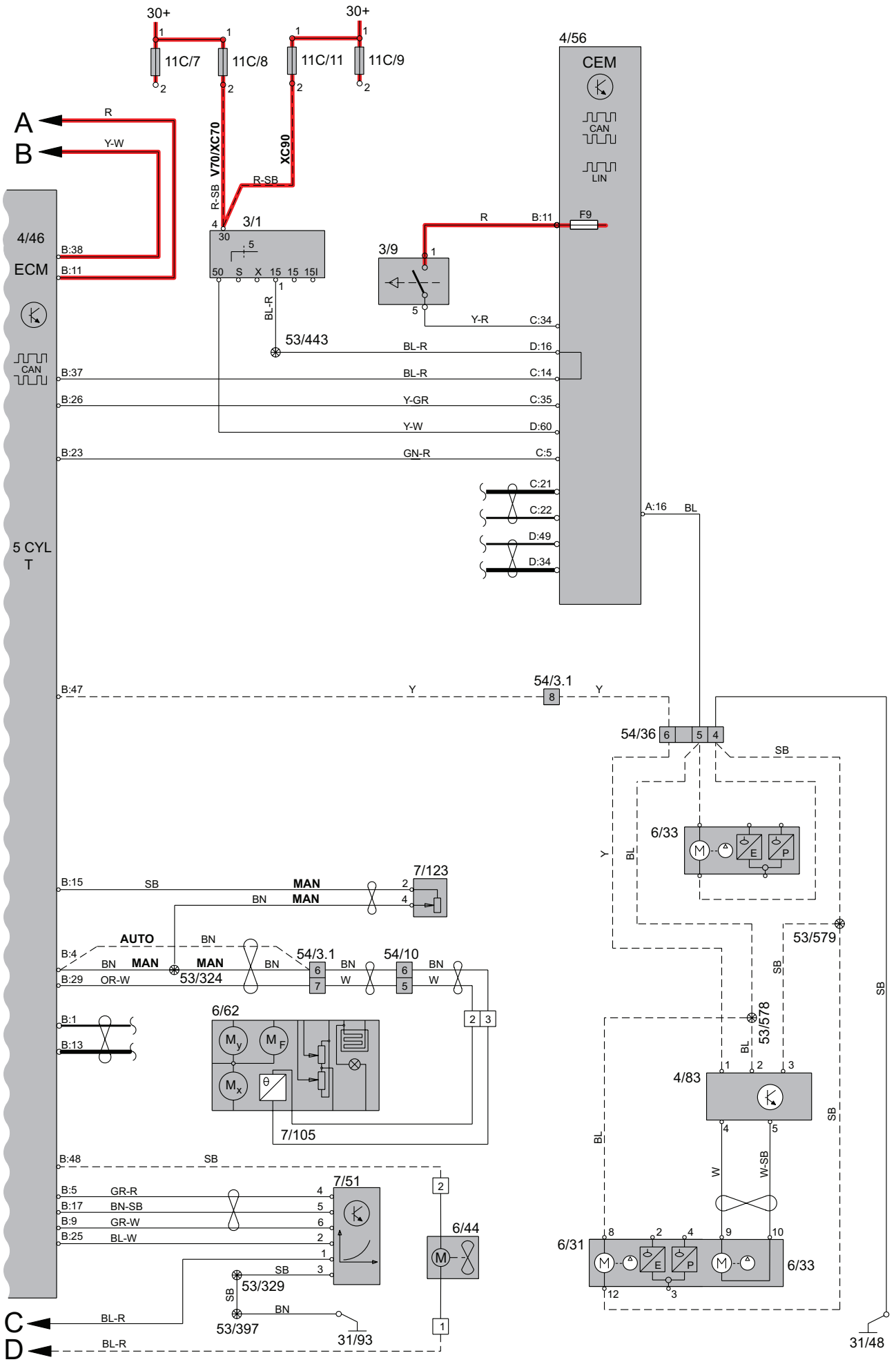
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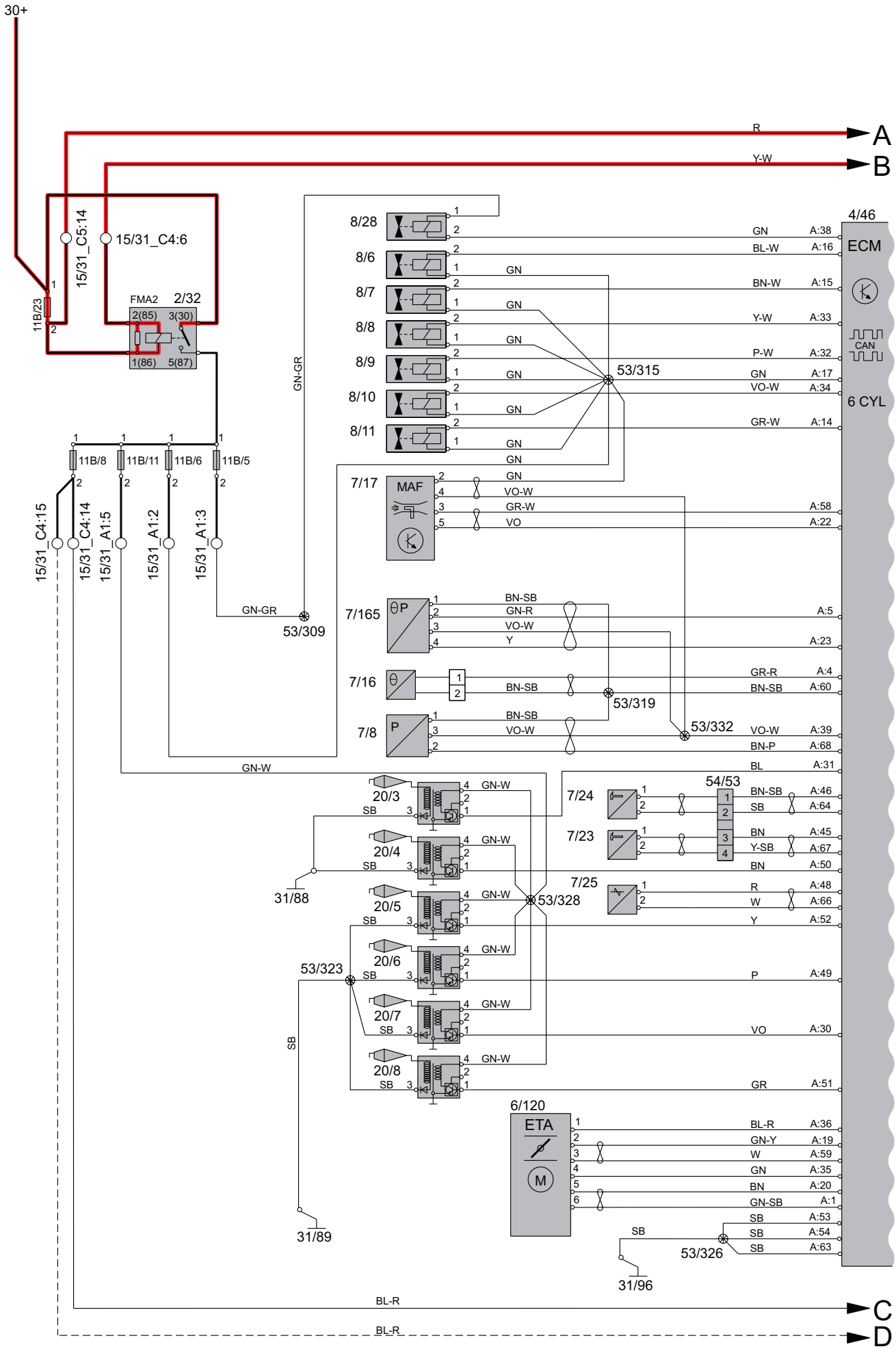
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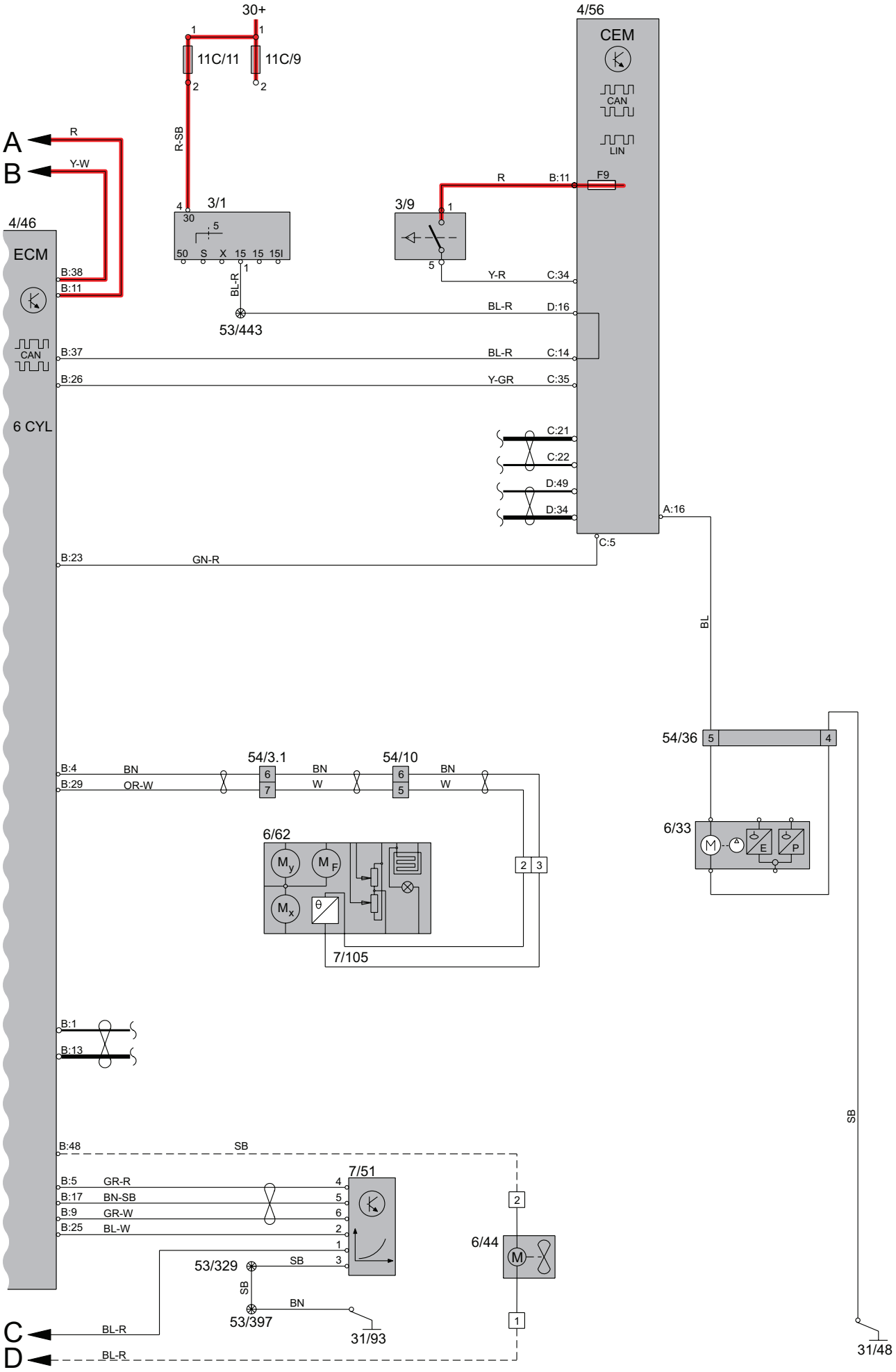
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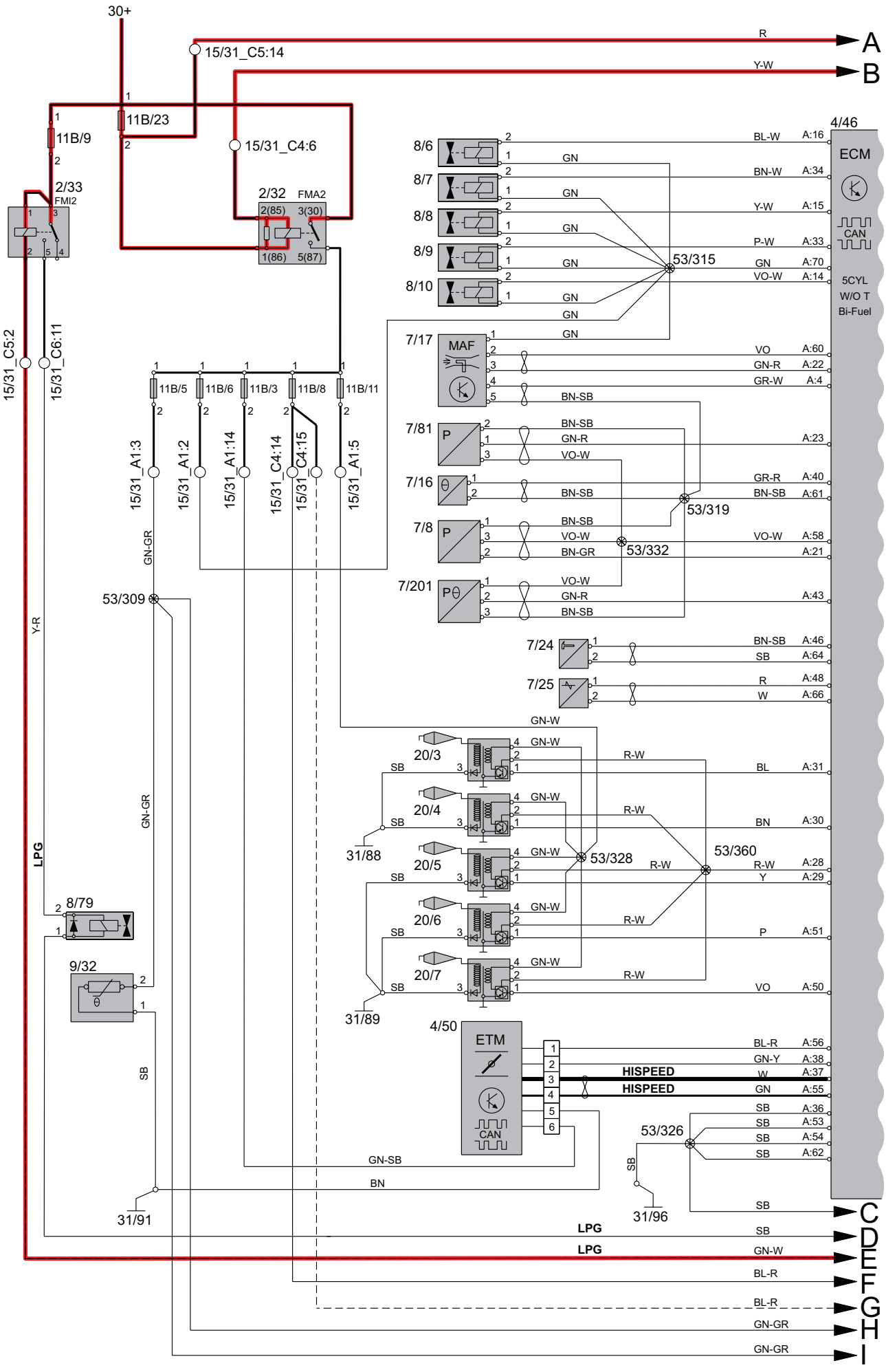
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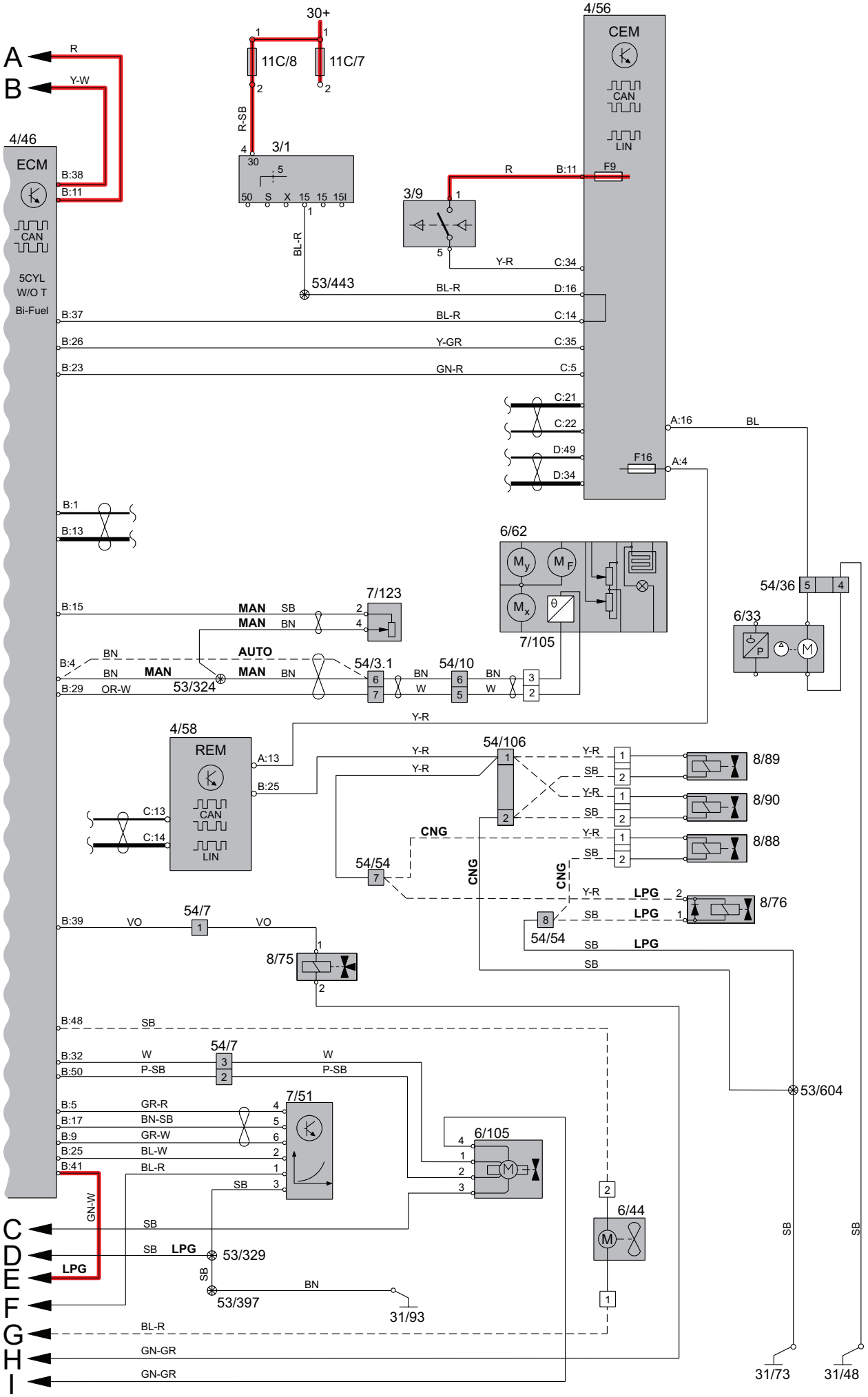
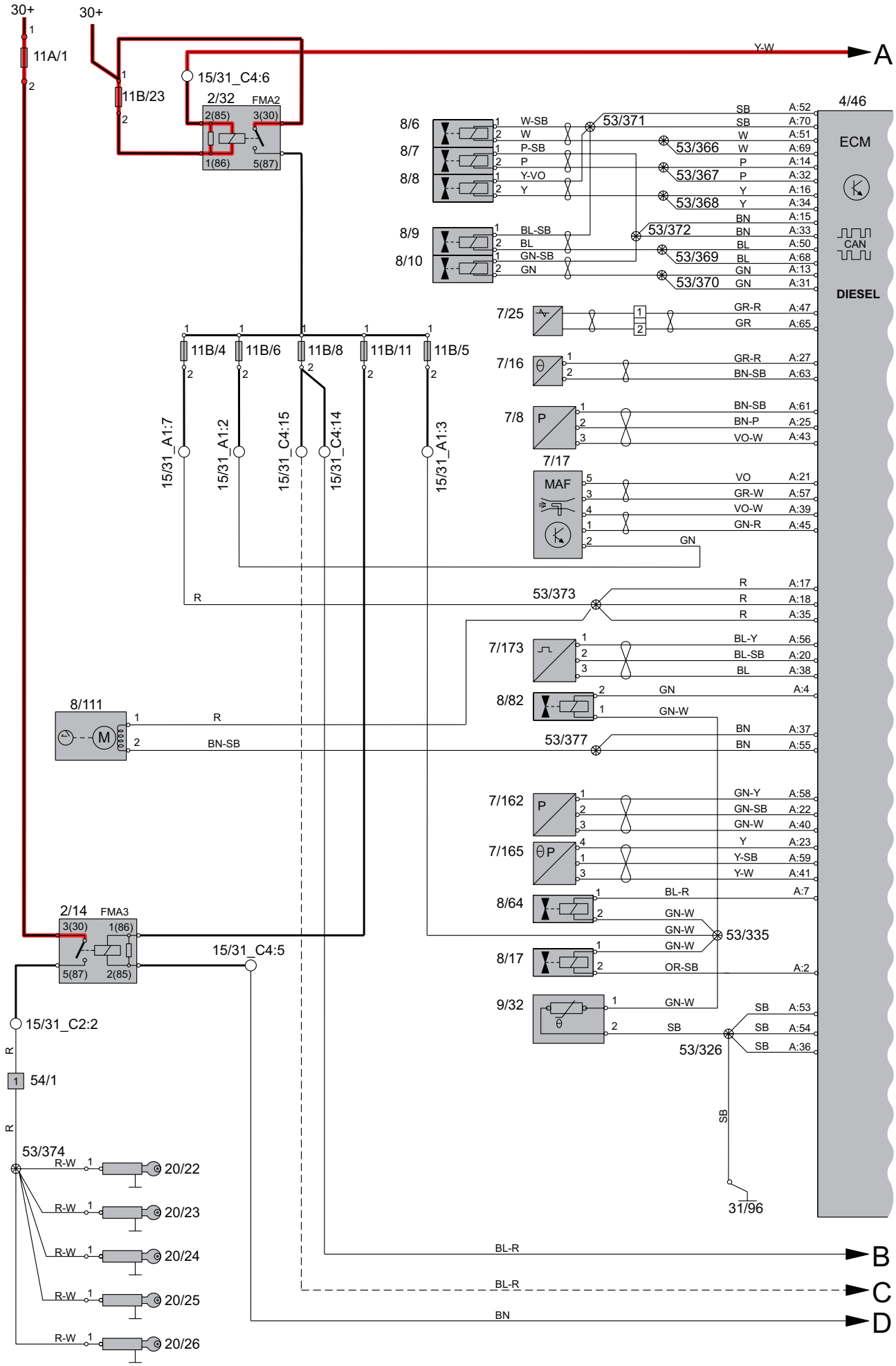
Group 23 Fuel system
Engine management system, Bi-fuel 2:2

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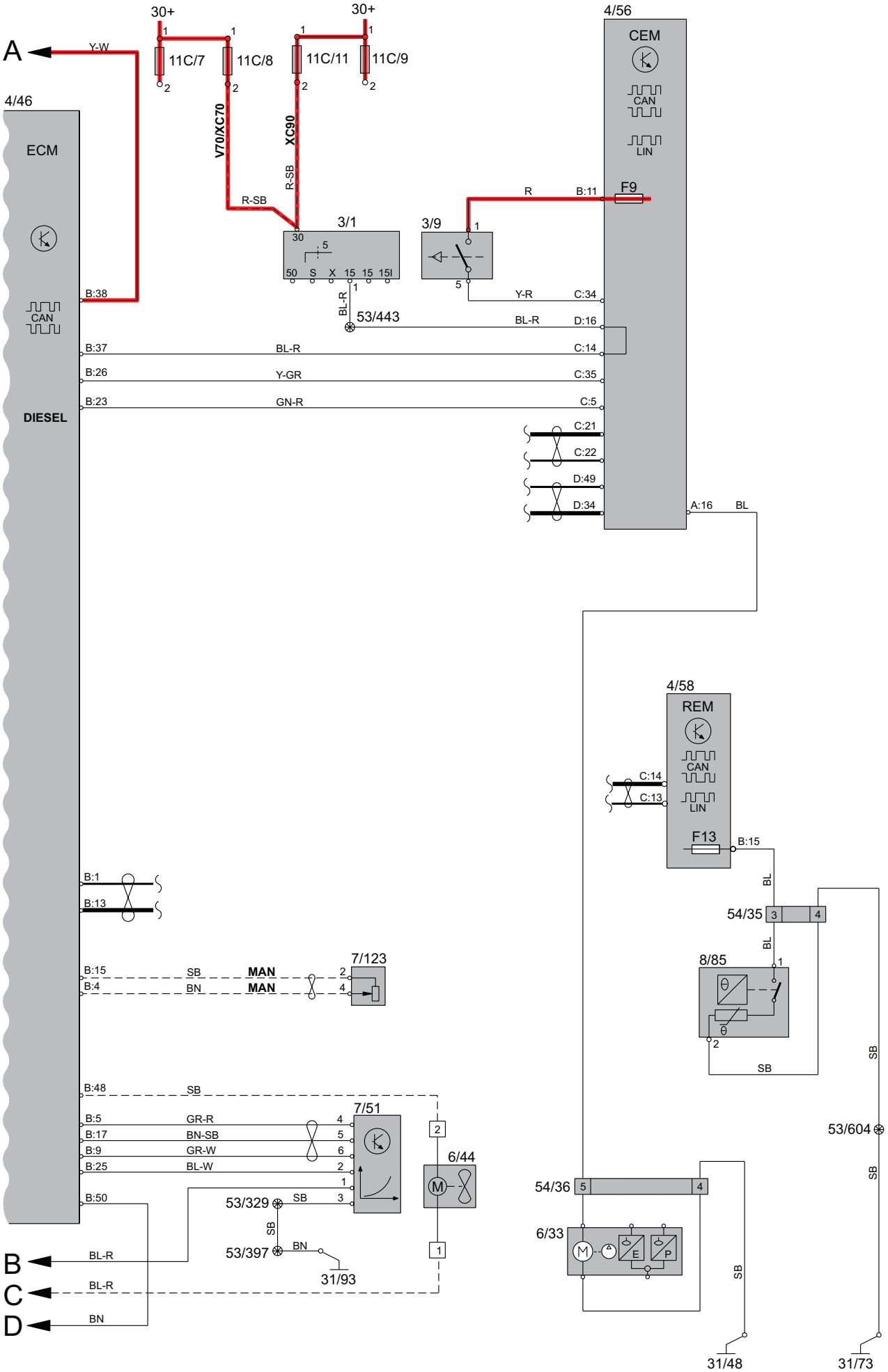
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7/123
2
4
B:48
SB
B:5
B:17
B:9
B:25
B:50
GR-R
BN-SB
GR-W
BL-W
7/51
4
5
6
2
1
3
53/329
SB
SB
53/397
BN
31/93
2
6/44
1
54/36
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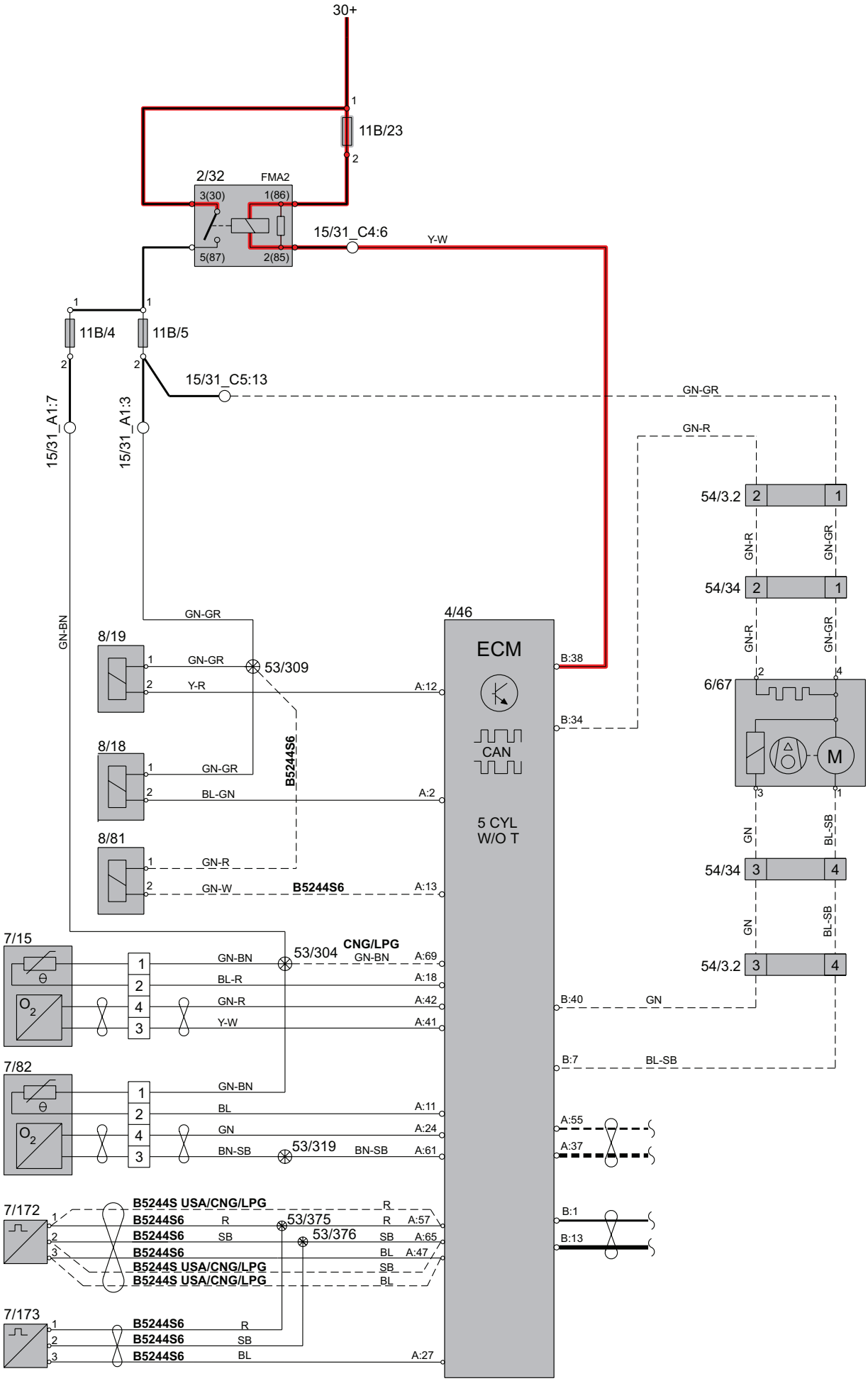
4
6/33
M
E
P
SB
31/48
31/73
B
BL-R
C
BL-R
D
BN


30+
11B/23
2/32
FMA2
3(30)
1(86)
5(87)
2(85)
15/31_C4:6
Y-W
11B/4
11B/5
15/31_C5:13
GN-GR
15/31_A1:7
15/31_A1:3
GN-R
GN-BN
54/3.2
54/34
6/67
8/19
8/18
8/81
53/309
B5244S6
4/46
ECM
CAN
5 CYL
W/O T
B:38
B:34
A:12
A:2
A:13
7/15
7/82
7/172
7/173
53/304
CNG/LPG
53/319
53/375
53/376
B5244S USA/CNG/LPG
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B:7
BL-SB
GN
A:55
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B:1
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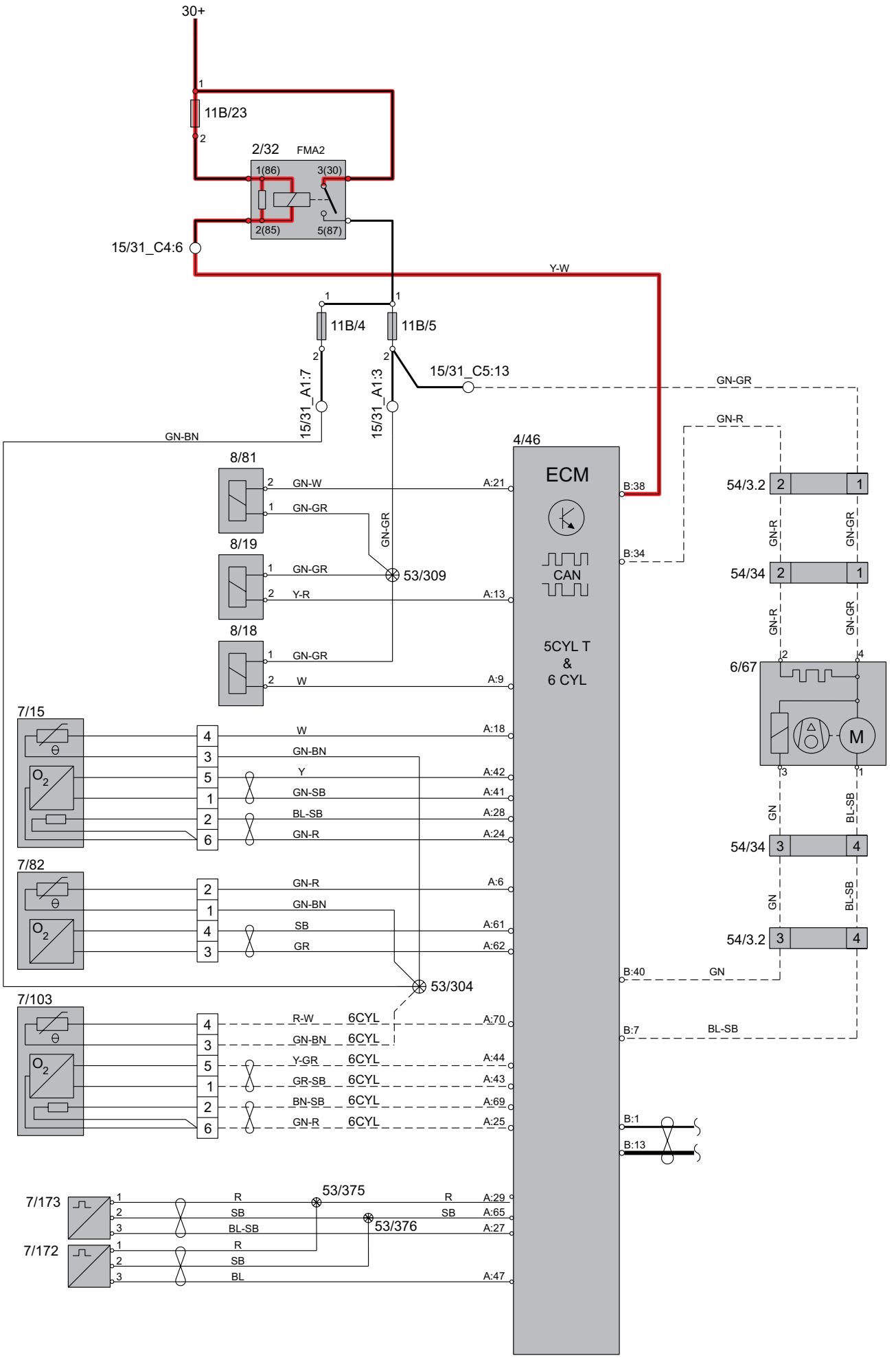
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2/32 FMA2
1(86)
3(30)
2(85)
5(87)
15/31_C4:6
Y-W
11B/4
11B/5
15/31_A1:7
15/31_A1:3
15/31_C5:13
GN-GR
GN-R
GN-BN
4/46
ECM
CAN
5CYL T
&
6 CYL
8/81
GN-W
A:21
B:38
8/19
GN-GR
53/309
Y-R
A:13
B:34
8/18
W
A:9
54/3.2
54/34
6/67
M
7/15
θ
O2
W
A:18
GN-BN
Y
A:42
GN-SB
A:41
BL-SB
A:28
GN-R
A:24
7/82
SB
A:61
GR
A:62
53/304
B:40
GN
7/103
R-W
6CYL
A:70
GN-BN
Y-GR
A:44
GR-SB
A:43
BN-SB
A:69
B:7
BL-SB
B:1
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7/172
53/375
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R
SB
BL-SB
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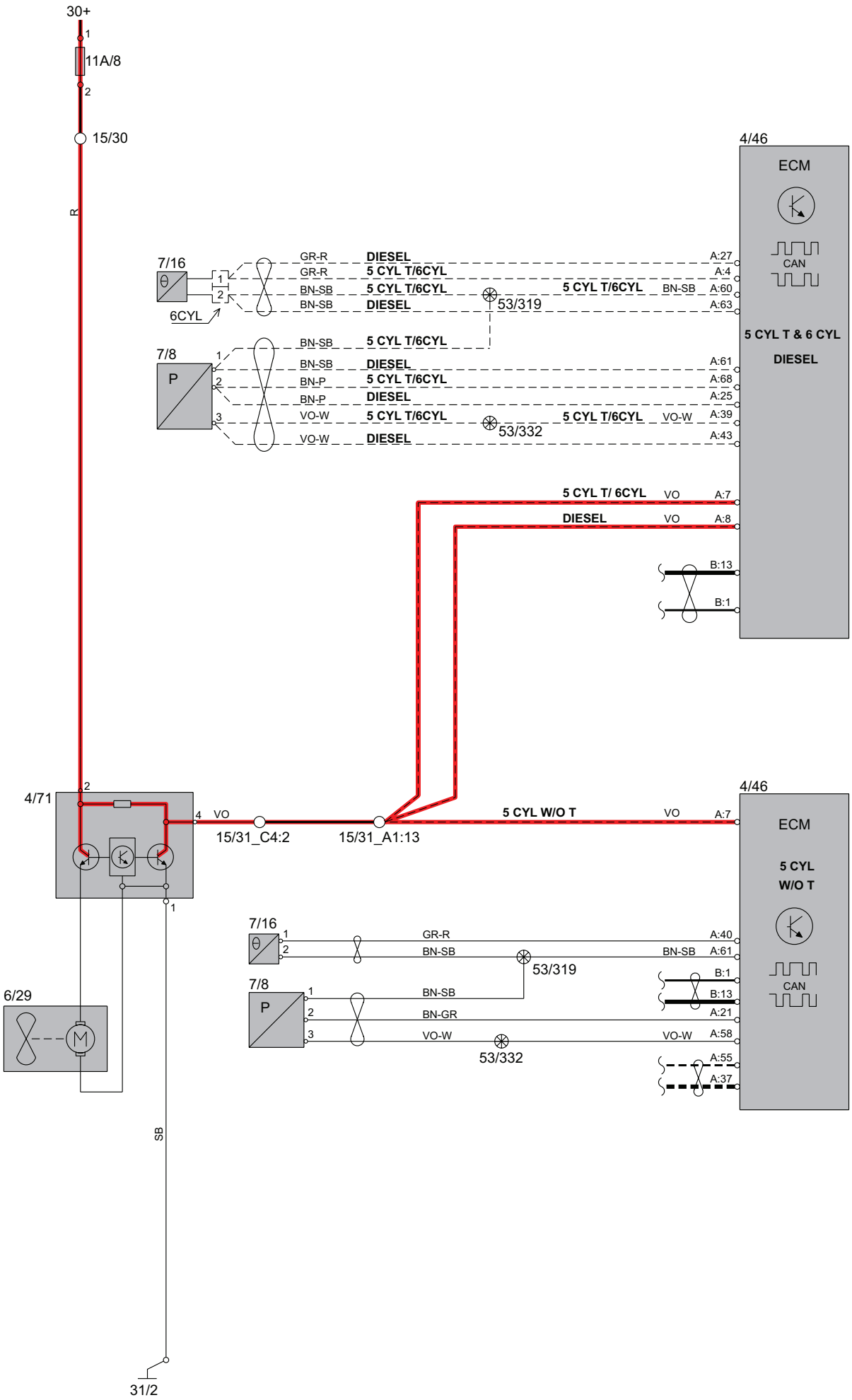
A:47


30+
1
11A/8
2
15/30
R
4/46
ECM
CAN
5 CYL T & 6 CYL
DIESEL
7/16
6CYL
GR-R
DIESEL
GR-R
5 CYL T/6CYL
BN-SB
5 CYL T/6CYL
BN-SB
DIESEL
53/319
5 CYL T/6CYL
BN-SB
A:27
A:4
A:60
A:63
7/8
P
BN-SB
5 CYL T/6CYL
BN-SB
DIESEL
BN-P
5 CYL T/6CYL
BN-P
DIESEL
VO-W
5 CYL T/6CYL
VO-W
DIESEL
53/332
5 CYL T/6CYL
VO-W
A:61
A:68
A:25
A:39
A:43
5 CYL T/ 6CYL
VO
A:7
DIESEL
VO
A:8
B:13
B:1
4/71
2
4
VO
1
15/31_C4:2
15/31_A1:13
5 CYL W/O T
VO
A:7
4/46
ECM
5 CYL
W/O T
CAN
7/16
GR-R
BN-SB
53/319
BN-SB
A:40
A:61
B:1
B:13
7/8
P
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BN-GR
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VO-W
A:21
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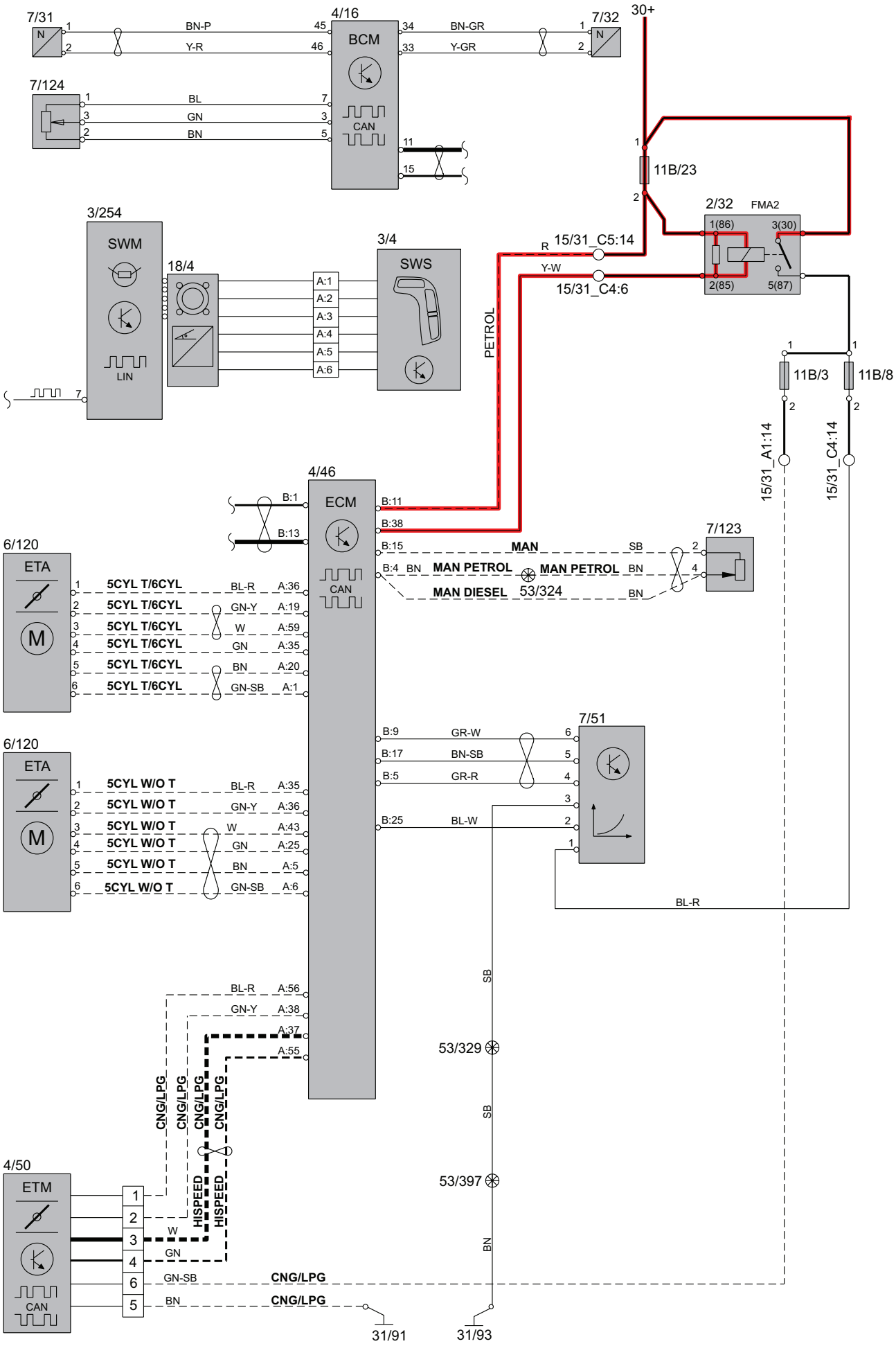
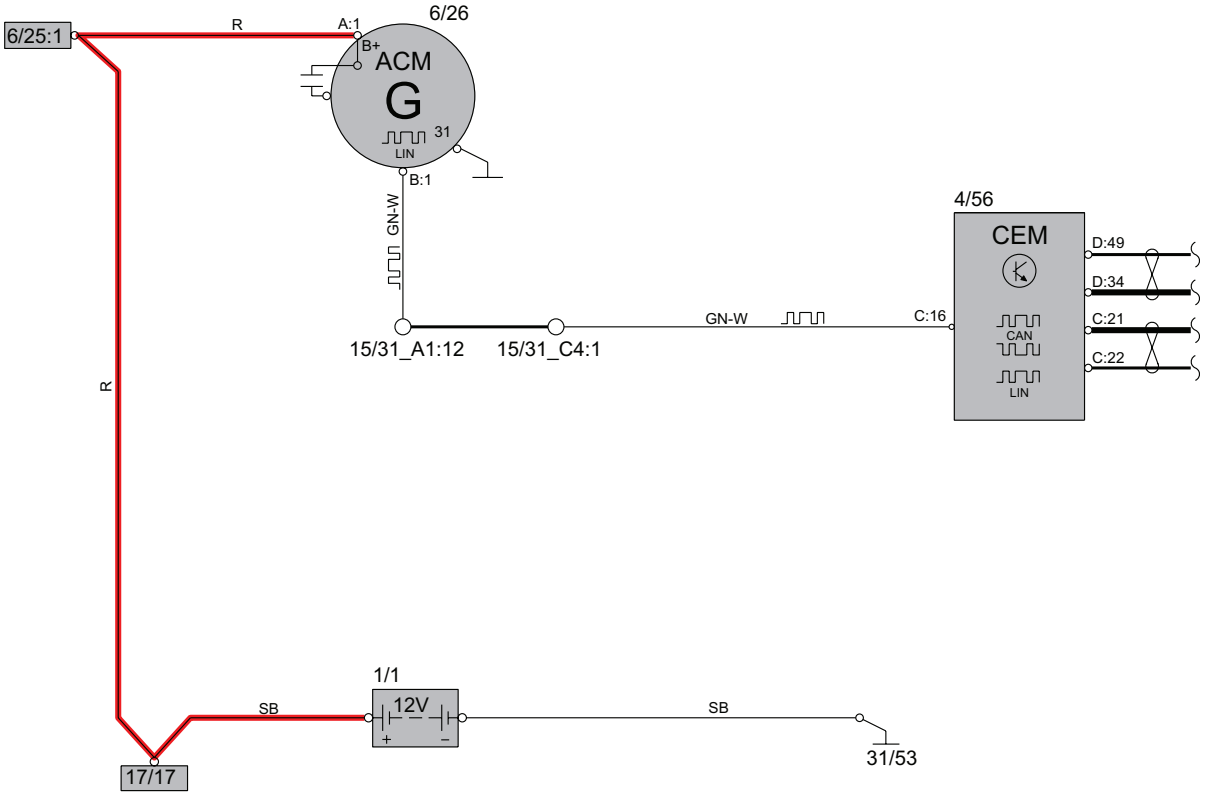
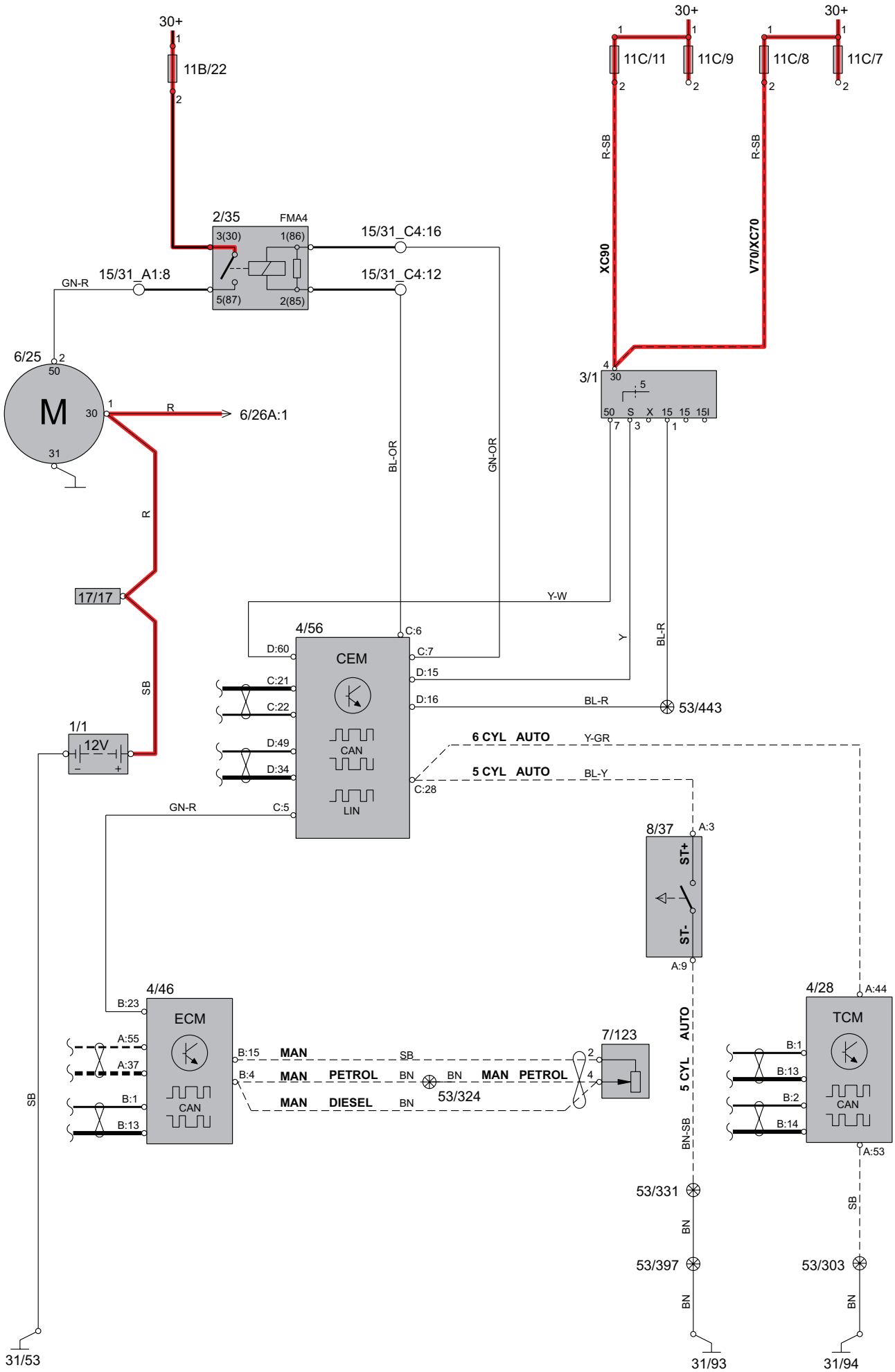
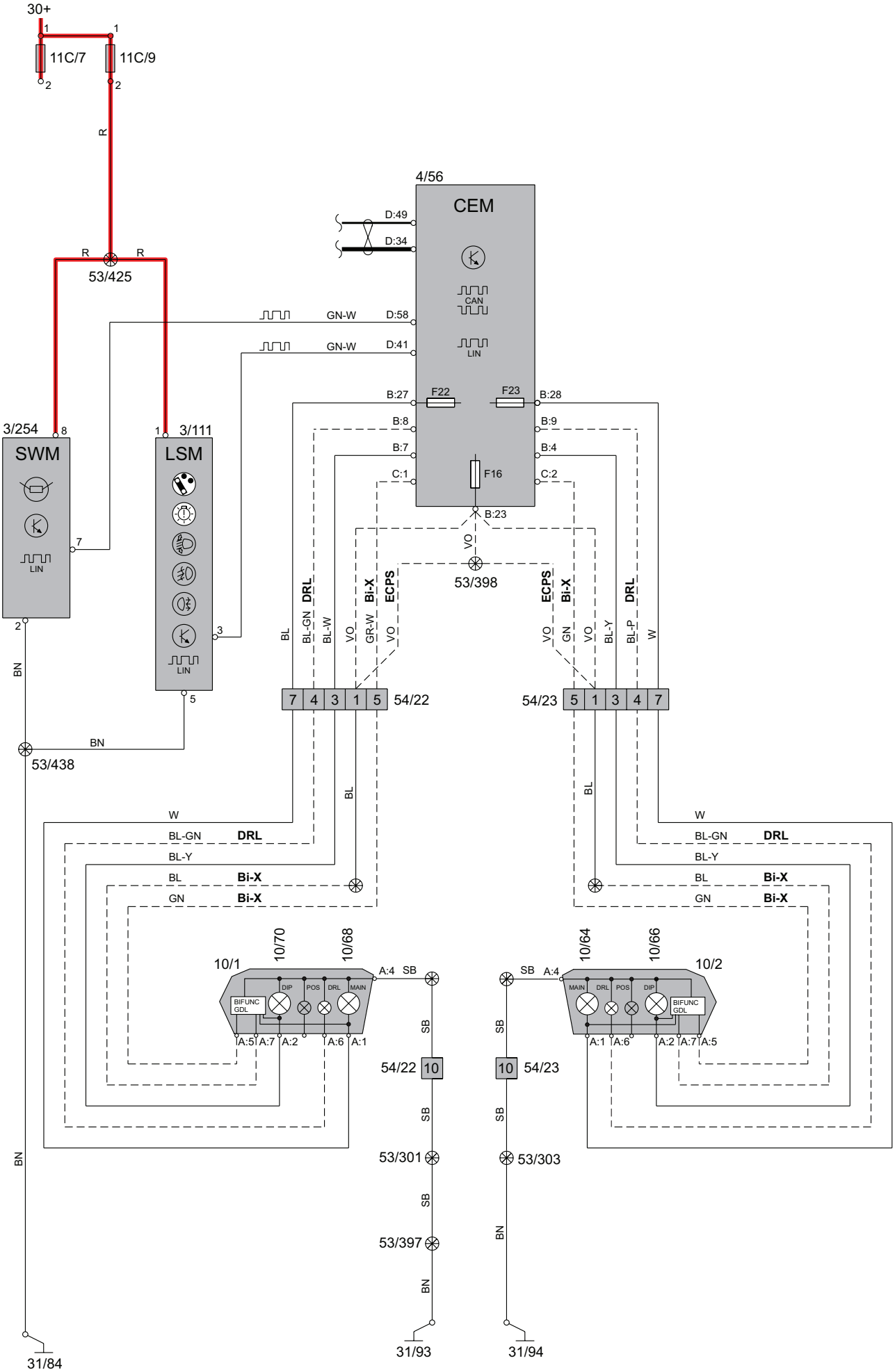
A:37
6/29
M
SB
31/2


7/31
BN-P
Y-R
4/16
BCM
CAN
7/32
BN-GR
Y-GR
7/124
BL
GN
BN
30+
11B/23
2/32
FMA2
1(86)
3(30)
2(85)
5(87)
15/31_C5:14
15/31_C4:6
R
Y-W
PETROL
3/254
SWM
LIN
18/4
3/4
SWS
A:1
A:2
A:3
A:4
A:5
A:6
11B/3
11B/8
15/31_A1:14
15/31_C4:14
4/46
ECM
CAN
B:1
B:13
B:11
B:38
B:15
B:4
MAN
MAN PETROL
MAN DIESEL
53/324
7/123
6/120
ETA
5CYL T/6CYL
BL-R
GN-Y
W
GN
BN
GN-SB
A:36
A:19
A:59
A:35
A:20
A:1
6/120
ETA
5CYL W/O T
BL-R
GN-Y
W
GN
BN
GN-SB
A:35
A:36
A:43
A:25
A:5
A:6
7/51
B:9
GR-W
B:17
BN-SB
B:5
GR-R
B:25
BL-W
BL-R
SB
53/329
53/397
BN
4/50
ETM
CAN
HISPEED
CNG/LPG
GN-SB
BN
31/91
31/93

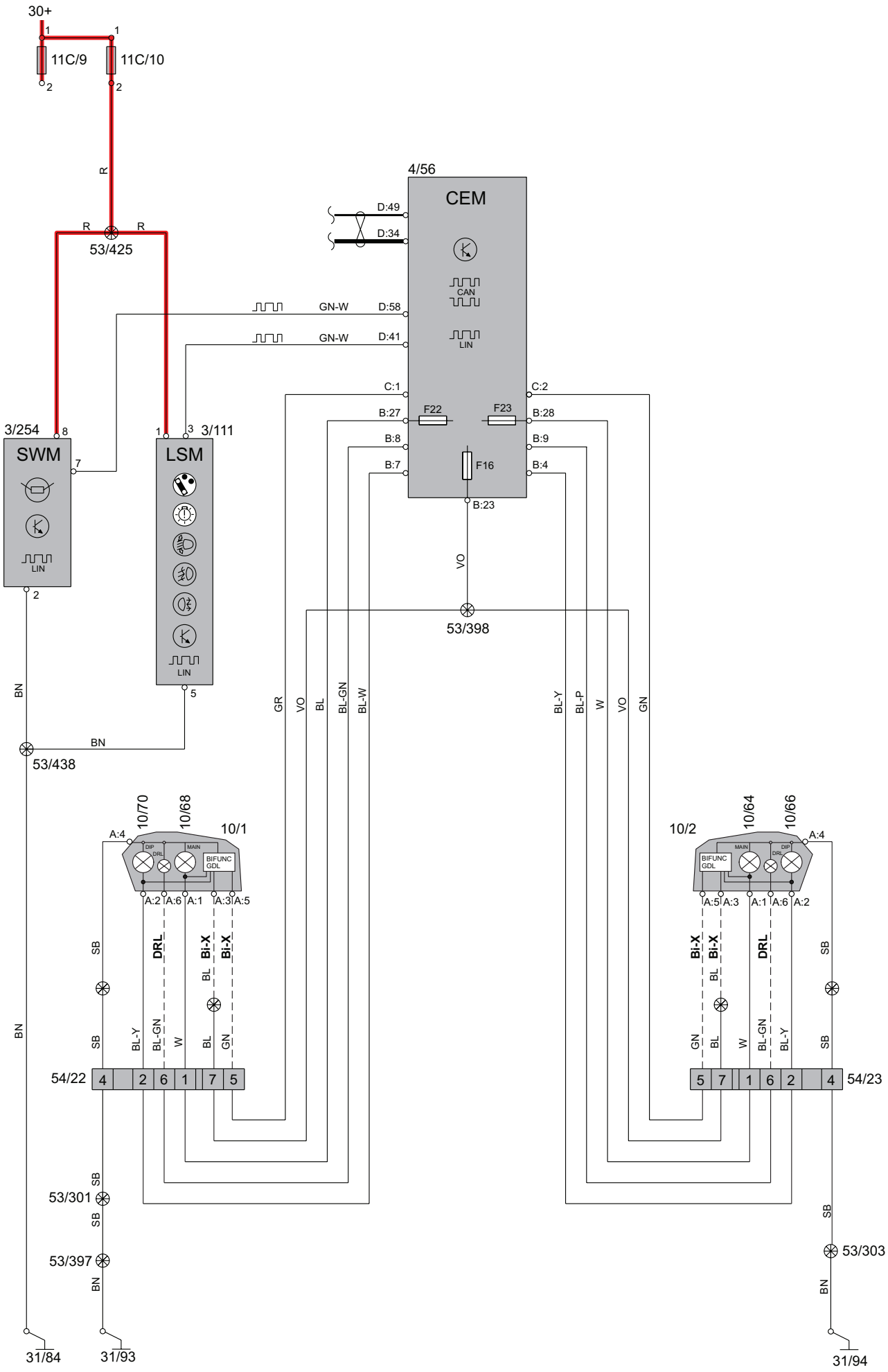

6/25:1
R
A:1
6/26
B+
ACM
G
31
LIN
B:1
GN-W
4/56
CEM
D:49
D:34
C:21
C:22
CAN
LIN
GN-W
C:16
15/31_A1:12
15/31_C4:1
R
1/1
12V
SB
SB
31/53
17/17

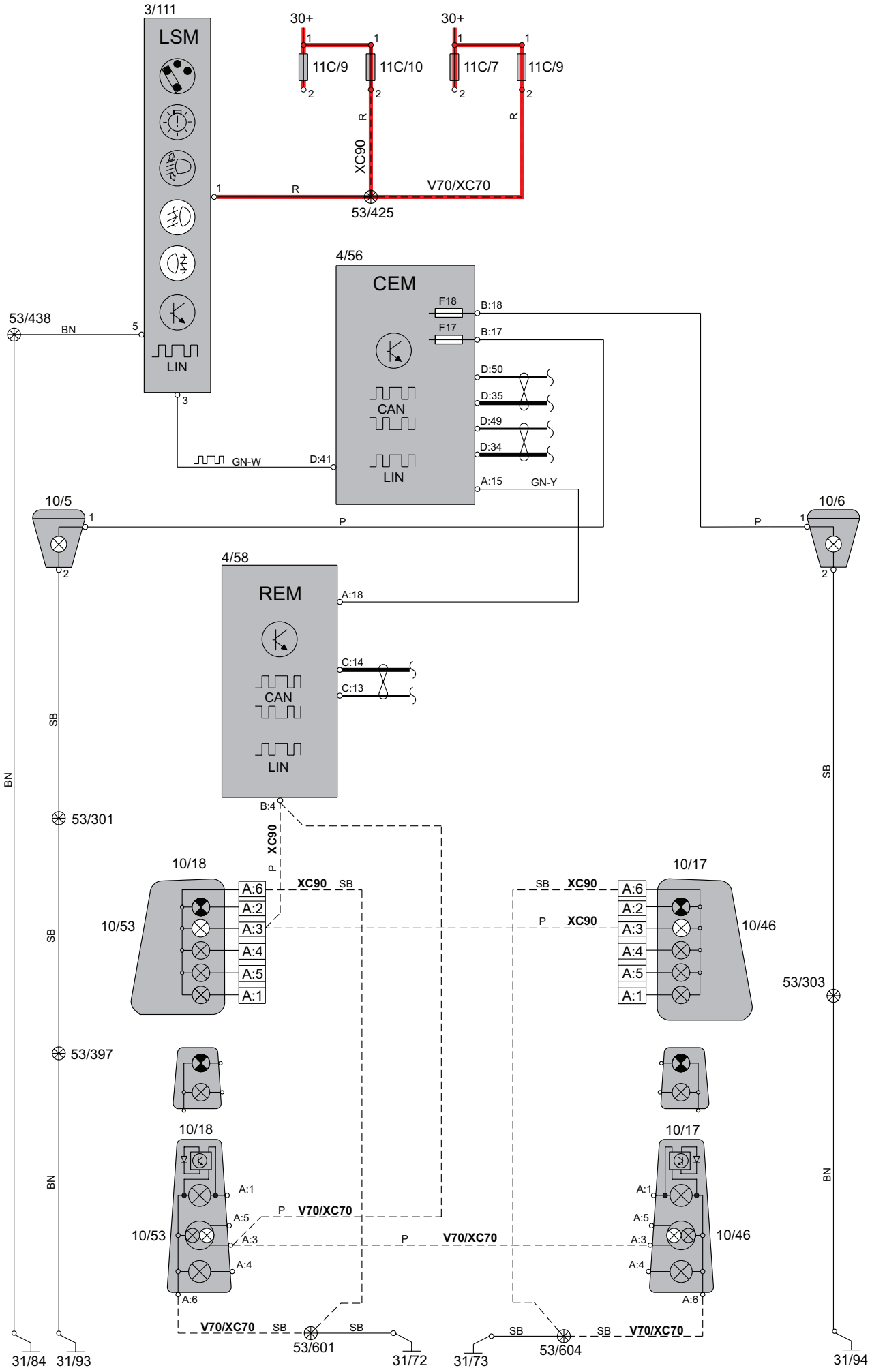

30+
11B/22
11C/11
11C/9
11C/8
11C/7
R-SB
XC90
V70/XC70
2/35
FMA4
3(30)
1(86)
5(87)
2(85)
15/31_C4:16
15/31_C4:12
15/31_A1:8
GN-R
6/25
M
50
30
31
R
6/26A:1
3/1
50 S X 15 15 15I
BL-OR
GN-OR
17/17
SB
Y-W
Y
BL-R
4/56
CEM
D:60
C:6
C:7
D:15
D:16
C:21
C:22
D:49
D:34
CAN
LIN
53/443
1/1
12V
6 CYL AUTO
Y-GR
5 CYL AUTO
BL-Y
C:28
C:5
8/37
A:3
ST+
ST-
A:9
4/46
ECM
B:23
A:55
A:37
B:1
B:13
B:15
B:4
MAN
PETROL
DIESEL
BN
53/324
7/123
4/28
TCM
A:44
B:1
B:13
B:2
B:14
A:53
BN-SB
53/331
53/397
53/303
31/53
31/93
31/94

High and low beam/Bi-Xenon & Daytime running lights V70/XC70



High and low beam/Bi-Xenon & Daytime running lights XC90




3/111
LSM
LIN
30+
11C/9
11C/10
11C/7
11C/9
XC90
R
V70/XC70
53/425
4/56
CEM
F18
F17
B:18
B:17
D:50
D:35
D:49
D:34
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GN-Y
CAN
LIN
53/438
BN
GN-W
D:41
10/5
10/6
P
4/58
REM
A:18
C:14
C:13
CAN
LIN
SB
BN
53/301
53/303
53/397
B:4
XC90
10/18
10/17
10/53
10/46
A:6
A:2
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A:1
V70/XC70
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53/604
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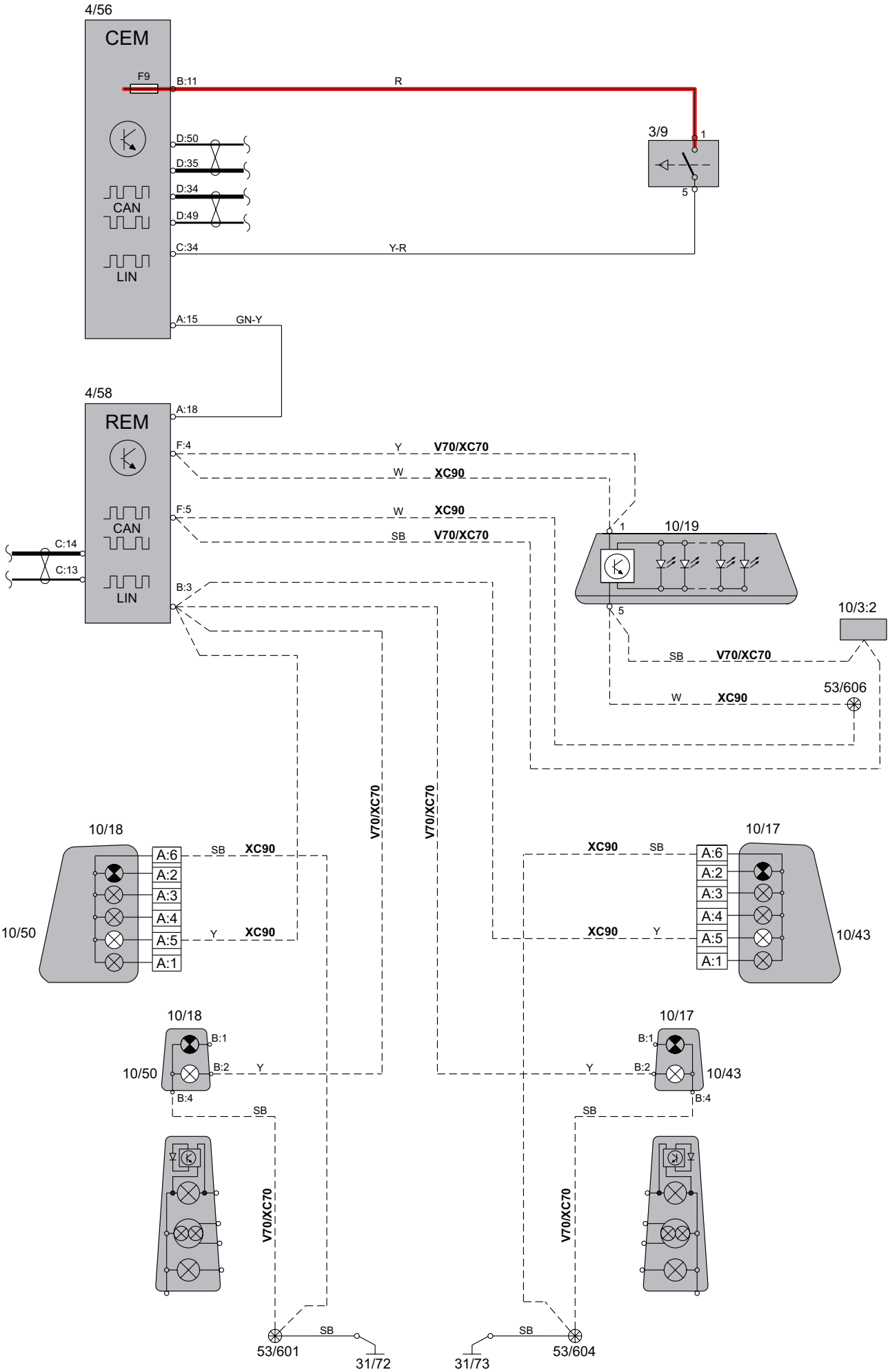
31/93
31/72
31/73
31/94


4/56
CEM
F9
B:11
R
D:50
D:35
D:34
D:49
CAN
C:34
Y-R
LIN
A:15
GN-Y
3/9
1
5
4/58
REM
A:18
F:4
Y
V70/XC70
W
XC90
F:5
W
XC90
SB
V70/XC70
CAN
C:14
C:13
LIN
B:3
10/19
1
5
10/3:2
SB
V70/XC70
W
XC90
53/606
V70/XC70
V70/XC70
10/18
10/50
A:6
A:2
A:3
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A:5
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SB
XC90
Y
XC90
10/17
10/43
XC90
SB
XC90
Y
10/18
10/50
B:1
B:2
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B:1
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B:4
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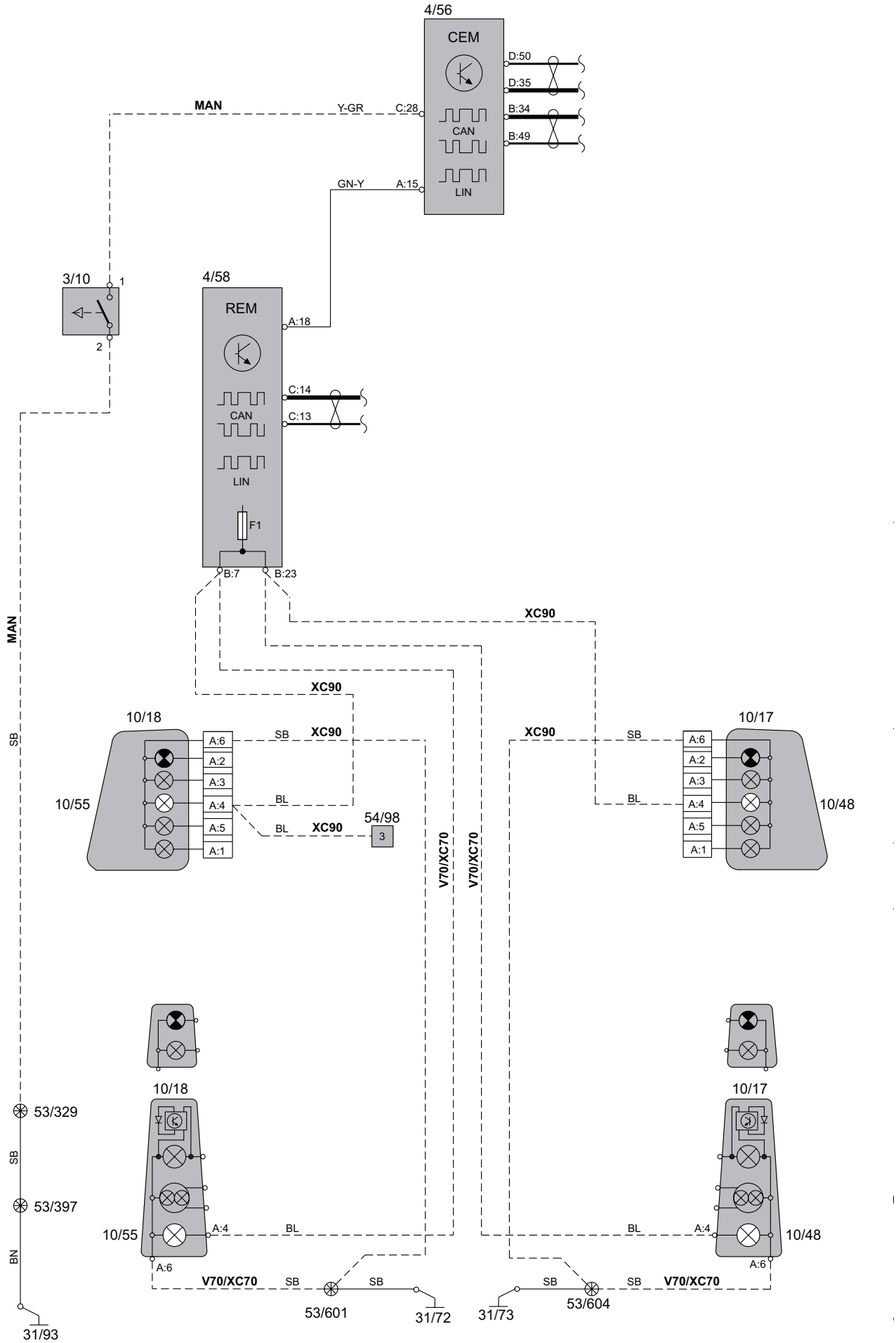
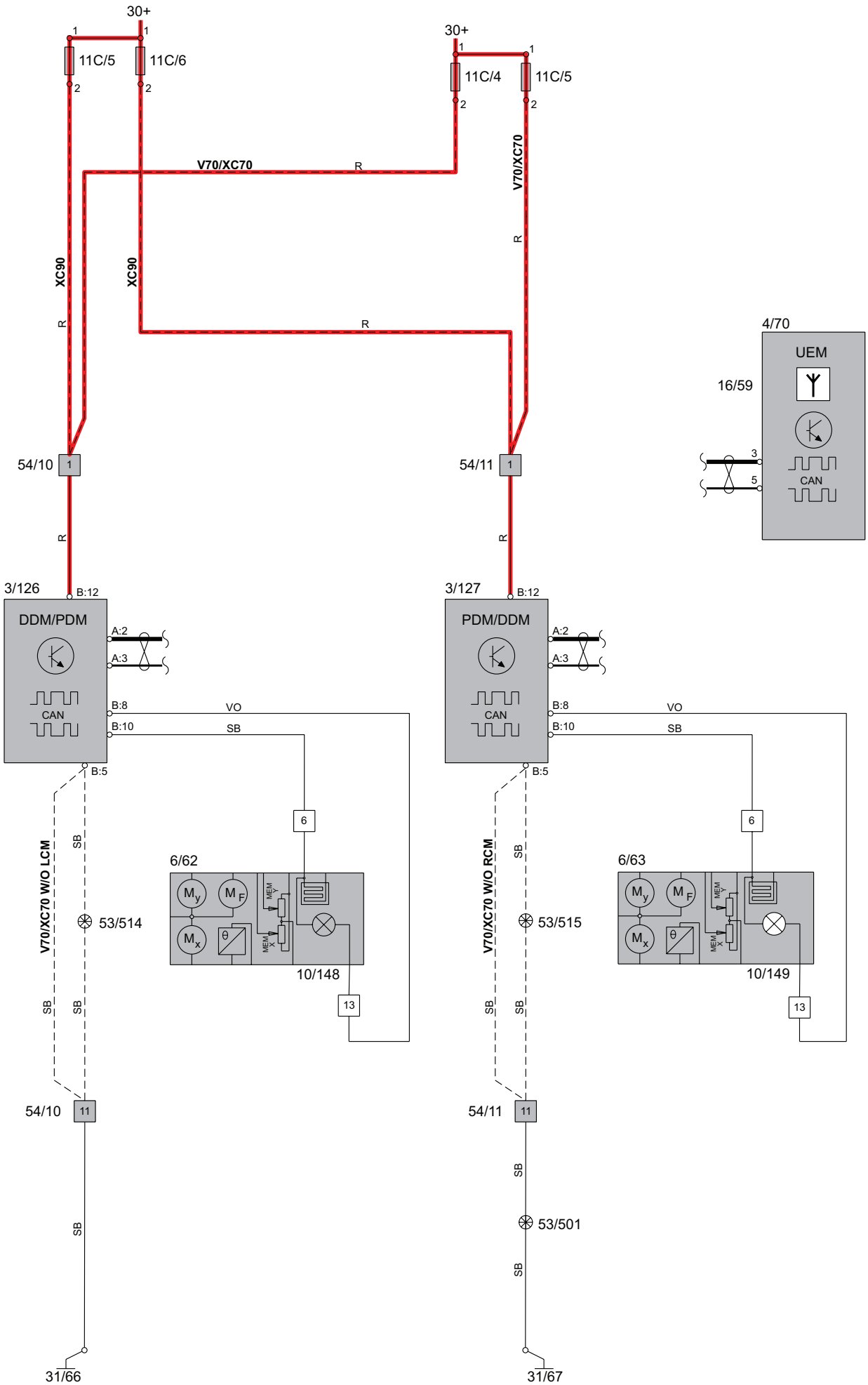
SB
SB
V70/XC70
V70/XC70
SB
SB
53/601
31/72
31/73
53/604


4/56
CEM
D:50
D:35
B:34
B:49
CAN
LIN
MAN
Y-GR
C:28
GN-Y
A:15
3/10
1
2
4/58
REM
A:18
C:14
C:13
CAN
LIN
F1
B:7
B:23
XC90
MAN
SB
10/18
10/55
A:6
A:2
A:3
A:4
A:5
A:1
BL
54/98
3
V70/XC70
10/17
10/48
53/329
53/397
BN
31/93
53/601
31/72
53/604
31/73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11C/6
30+
11C/4
11C/5
V70/XC70
R
V70/XC70
R
XC90
R
XC90
R
R
4/70
UEM
16/59
3
5
CAN
54/10
1
54/11
1
R
R
3/126
B:12
DDM/PDM
A:2
A:3
CAN
B:8
B:10
VO
SB
B:5
3/127
B:12
PDM/DDM
A:2
A:3
CAN
B:8
B:10
VO
SB
B:5
6
6/62
M y
M F
M x
θ
MEM Y
MEM X
10/148
13
6
6/63
M y
M F
M x
θ
MEM Y
MEM X
10/149
13
V70/XC70 W/O LCM
SB
SB
53/514
SB
SB
V70/XC70 W/O RCM
SB
SB
53/515
SB
SB
54/10
11
54/11
11
SB
SB
53/501
SB
31/66
31/67

Group 35 Lighting
Position/parking lights, tail lights & license plate lighting V70/XC70